

Mail Stop 6010
Via Facsimile and U.S. Mail

May 10, 2007

Dr. Steven C. Quay, M.D., Ph.D
Chairman of the Board, President and Chief Executive Officer
Nastech Pharmaceutical Company, Inc.
3830 Monte Villa Parkway
Bothell, Washington 98021

**Re: Nastech Pharmaceutical Company, Inc.
Form 10-K for fiscal year ended December 31, 2006
File No. 000-13789**

Dear Dr. Quay:

We have reviewed your filing and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your documents. In our comments, we ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for fiscal year ended December 31, 2006

Managements Discussion and Analysis of Financial Condition and Results of Operations

Critical Accounting Policies and Estimates, page 42

1. You do not appear to have discussed the variability implicit in your critical accounting estimates. This disclosure should provide investors with a fuller understanding of the uncertainties in applying critical accounting estimates and the likelihood that materially different amounts would be reported under different conditions or using different assumptions. It should include quantification of the related variability in operating results that you expect to be reasonably likely to occur, particularly as a result of changes in your estimates of development costs.

Please keep these points in mind in providing us your responses to comments listed below. Please describe in disclosure-type format the expected uncertainties and variability implicit in critical accounting estimates, the effect that changes in such estimates have had on your financial statements for each period presented, and the effect that reasonably likely changes in the key assumptions underlying these estimates may have on your financial statements in the future. Refer to Section V of Financial Reporting Release No. 72 issued on December 29, 2003.

Revenue Recognition, page 42

2. Your “ability to estimate total development effort and costs can vary significantly for each product candidate due to the inherent complexities and uncertainties of drug development,” which in turn can require revision of revenue estimates that are “recognized prospectively over the remaining estimated product development period.” Please provide the following information related to your revenue estimates in disclosure-type format:
 - Provide an explanation of the methods and key assumptions used to estimate total revenue.
 - Disclose the estimated development period for each project.
 - Quantify the impact of changes in these estimates for each period presented and the reasonably likely changes expected in the future.
 - Explain the contractual performance requirements that serve as the basis for your recognition of research and licensing fees over the product development cycle, including the factors that you considered in “prospectively” recognizing changes in estimated total revenue.
 - Describe the nature of “available internal evidence” upon which you rely in determining fair value.

Research and Development Costs, page 43

3. You “adjust your rate of clinical expense recognition if actual results differ from estimates” resulting from changes in the “product development cycle”, “clinical development plan, regulatory requirements or various other factors.” You recognize the impact of these changes in estimates and the timing thereof “prospectively over the remaining estimated product development period.” Please provide the following information related to your estimates of total development costs in disclosure-type format.
 - Provide an explanation of the methods and key assumptions used to estimate total development effort and costs.
 - Quantify the impact of changes in these estimates for each period presented and the reasonably likely changes expected in the future.

- Explain your basis for recognizing development costs over the product development cycle, including the factors that you considered in “prospectively” recognizing changes in estimated total development costs.
4. You state that consistent with EITF 01-14, reimbursements received for direct out-of-pocket expenses related to contract research and development costs are recorded as revenue rather than as a reduction in expenses. Please quantify these reimbursements and related out-of-pocket expenses in disclosure-type format for each period presented. Please refer to paragraph 14 of SFAS 68.

Consolidated Results of Operations

Comparison of Annual Results of Operations

Revenue, page 46

5. It appears that you refer to the \$7.0 million milestone that you received from P&G as an “upfront payment”. Please explain to us in disclosure-type format why this payment represents the culmination of a distinct earnings process and why it is substantive in nature to clarify your basis for recognizing this payment in full in 2006.

Research and Development, page 47

6. You are “often unable to determine the duration and completion costs of our R&D projects or when and to what extent we will receive cash inflows from the commercialization and sale of product.” However, your discussion of expected project completion and funding requirements for your lead drug candidates could be improved so that investors would have a better understanding of the reasonably likely liquidity and capital funding requirements in future periods. Please provide in disclosure-type format the following information for each of your major research and development projects. Refer to the Division of Corporation Finance “Current Issues and Rulemaking Projects Quarterly Update” under section VIII – Industry Specific Issues – Accounting and Disclosure by Companies Engaged in Research and Development Activities. You can find it at the following website address: <http://www.sec.gov/divisions/corpfin/cfcrq032001.htm#secviii>.
- a. Disclose the estimated total development costs for each project, including the nature, timing and estimated costs of the efforts necessary to complete the project;
 - b. The anticipated completion date for the project;
 - c. The risks and uncertainties associated with completing development on schedule, and the consequences to operations, financial position and liquidity if the project is not completed timely; and,

- d. The future period in which you expect material net cash inflows from the project to be reasonably likely to occur.

Contractual Obligations, page 53

7. Please explain in disclosure-type format your basis for omitting estimated payments from the table of contractual obligations related to your collaborations and research and development programs that appear reasonably likely to arise.

* * * *

Please respond to these comments within 10 business days or tell us when you will provide us with a response. Your letter should key your responses to our comments. Detailed cover letters greatly facilitate our review. Please furnish your letter on EDGAR under the form type label CORRESP.

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 all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. 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 connection with responding to our comments, please provide, in your letter, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filings;
- 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.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

Dr. Steven C. Quay, M.D., Ph.D
Nastech Pharmaceutical Company, Inc.
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You may contact Frank Wyman, Staff Accountant, at 202-551-3660 or Don Abbott, Senior Staff Accountant, at 202-551-3608, if you have questions regarding the comments. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg
Senior Assistant Chief Accountant