

Mail Stop 6010
Via Facsimile and U.S. Mail

February 22, 2007

Mr. R. Bruce Stewart
Chief Executive Officer
Arrowhead Research Corporation
201 S. Lake Avenue, Suite 703
Pasadena, California 91101

**Re: Arrowhead Research Corporation
Form 10-K for fiscal year ended September 30, 2006
File No. 000-21898**

Dear Mr. Stewart:

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. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of 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 September 30, 2006

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, page 29

1. You have omitted a separate discussion of critical accounting estimates that involve uncertain matters that may possess a high degree of susceptibility to change and require estimates or assumptions that are highly subjective and judgmental. The impact of such estimates and assumptions on operating results and financial condition can be material. 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. For all critical accounting estimates, please provide a discussion of the uncertainties in applying these accounting estimates, the historical accuracy of these estimates, a quantification of their sensitivity to changes in key assumptions and the expected likelihood of material changes in the future. Please refer to Section V of Financial Reporting Release No. 72.

Research and Development Expenses, page 33

2. Please expand your disclosure as described in 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>.

Please disclose the following information for each of your major research and development projects.

- a. The current status of the project;
- b. The costs incurred during each period presented and to date on the project;
- c. The nature, timing and estimated costs of the efforts necessary to complete the project;
- d. The anticipated completion date for the project;
- e. 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,
- f. The period in which material net cash inflows from the project are expected to commence.

Regarding b., if you do not maintain any research and development costs by project disclose that fact and explain why management does not maintain and evaluate research and development costs by project. Provide other quantitative or qualitative disclosure that indicates the amount of the company's resources being used on the project.

Regarding c. and d., disclose the amount or range of estimated costs and timing to complete the phase in process and each future phase. To the extent that information is not estimable, disclose those facts and circumstances indicating the uncertainties that preclude you from making a reasonable estimate.

Liquidity and Capital Resources, page 35

3. Your table of contractual obligations omits funding obligations related to Arrowhead's collaborations with universities and other partners as well as your use of contract labor. Please provide this information in a revised table or explain to us why it is unnecessary.

Consolidated Statement of Operations, page F-4

4. It appears that patent amortization is an operating expense and minority interest should be included as a separate line item after a new subtotal called "Loss before minority interests" and before the subtotal "Loss from continuing operations". Please revise your financial statements or tell us how your presentation of minority interests and patent amortization as "other income (expense)" complies with Item 5-03 of Regulation S-X.

Consolidated Statement of Stockholders' Equity, page F-5

5. Please revise your description of "amortization of deferred compensation expense" to "stock-based compensation" considering that you no longer have deferred stock-based compensation upon adopting SFAS 123(R) using the retrospective method.

Note 3. Investment in Subsidiaries, page F-11

6. You disclose on page F-9 that a portion of the Company's investment in Insert has been allocated to the patent held by Insert. Please expand your disclosure to explain how you accounted for each purchase of Insert stock, including why the patent is an asset and not in-process research and development. Describe how you determined the fair value of patent and concluded that the carrying amount of this patent is still recoverable.
7. Please tell us why you have recorded goodwill in connection with your purchase of Calando stock in fiscal 2005 given your allocation of the entire fiscal 2006 purchase of minority interest to in-process research and development. Also, you recorded goodwill related to your investment in Aonex, which was subsequently written off as impaired in fiscal 2006. Calando and Aonex appear to be a newly formed development stage enterprises that do not meet the definition of a business in EITF 98-3. Please revise your financial statements to remove any goodwill associated with these investments or cite authoritative literature to support your accounting.

Note 6. Commitments and Contingencies—Subsidiaries and Sponsored Research, page F-16

8. You have entered into agreements with Calando and Unidym to provide additional capital at Arrowhead's option "subject to attainment of certain milestones in its preclinical testing, clinical testing and related approval processes." Under these arrangements, you may elect not to make additional capital contributions in which case you would "forfeit the right to make additional milestone payments and would forfeit a proportionate share of equity, based on the unfunded payments." Please provide the following information related to these arrangements:
 - a. Describe the "certain milestones" expected to be achieved in 2007 and 2008.
 - b. Explain the factors that you would consider in determining not to provide additional capital upon attainment of "certain milestones." Indicate the degree of likelihood that this outcome could occur and explain and quantify the resulting impact on your proportionate share of equity.
9. Under sponsored research and development efforts with four universities, you provide annual funding in exchange for "the right to exclusively license and commercialize any technology developed as a result of the research." Please expand your disclosure to discuss the process for developing intellectual property under these arrangements, the specific rights to such intellectual property to be held by you and each university, the circumstances obligating you to return the intellectual property to the university, and the terms expected to govern each related license.
10. Please disclose the significant terms governing the following agreements:
 - The Caltech and Alnylam license agreements. Also, disclose your accounting for the warrants issued by Aonex.
 - Contractual arrangements related to contract labor, including duration and contingent obligations.
 - Your contractual arrangements with third party manufacturers.

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As appropriate, please amend your filing and respond to these comments within 10 business days or tell us when you will provide us with a response. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. 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.

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