March 15, 2007

Via EDGAR CORRESP.

Mr. Jim B. Rosenberg
Mr. Frank Wyman
Division of Corporation Finance
United States Securities and Exchange Commission
100 F Street NE
Washington, D.C. 20459

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

Dear Mr. Rosenberg and Mr. Wyman:

We have reviewed the comments of the staff of the Division of Corporation Finance (the "Staff") of the Securities and Exchange Commission (the "Commission") with respect to the Annual Report on Form 10-K of Arrowhead Research Corporation (the "Company") for the fiscal year ended September 30, 2006, as set forth in your letter dated February 22, 2007, to Mr. R. Bruce Stewart, Chief Executive Officer of the Company (the "Comment Letter"). We appreciate the comments intended to assist us in complying with applicable disclosure requirements and in enhancing the overall disclosure in our 10-K filing. We have set forth below our responses to each of the Staff's comments and we propose to file an amended Annual Report on Form 10-K/A promptly following confirmation from the Staff that our responses adequately address the Staff's concerns.

For reference purposes, the text of the Comment Letter has been reproduced herein with responses below each numbered comment. In connection with our responses, Arrowhead acknowledges that:

- Arrowhead is responsible for the adequacy and accuracy of the disclosures 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
- Arrowhead 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.

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. ***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.***

Response to Comment 1: We propose to add the following text on page 30 immediately preceding the "Results of Operations" Section in Management's Discussion and Analysis of Financial Conditions and Results of Operations ("MD&A").

Critical Accounting Policies and Estimates

Management makes certain judgments and uses certain estimates and assumptions when applying accounting principles generally accepted in the United States in the preparation to our Consolidated Financial Statements. We evaluate our estimates and judgments on an on-going basis and base our estimates on historical experience and on assumptions that we believe to be reasonable under the circumstances. Our experience and assumptions form the basis for our judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may vary from what we anticipate and different assumptions or estimates about the future could change our reported results. We believe the following accounting policies are the most critical to us, in that they are important to the portrayal of our consolidated financial statements and require our most difficult, subjective or complex judgments in the preparation of our consolidated financial statements. For further information, see *Note 1, Organization and Significant Accounting Policies*, to our Consolidated Financial Statements which outlines our application of significant accounting policies and new accounting standards.

Revenue Recognition

There are no product sales in revenue at this time. When we have revenue from product sales, there will be persuasive evidence that an arrangement existed, title had passed and delivery had occurred, the price was fixed and determinable, and collection was reasonably assured.

We may generate revenue from technology licenses, collaborative research and development arrangements, and research grants. Revenue under technology licenses and collaborative agreements typically consists of nonrefundable and/or guaranteed technology license fees, collaborative research funding, and various milestone and future product royalty or profit-sharing payments.

Revenue associated with up-front license fees and research and development funding payments under collaborative agreements is recognized ratably over the relevant periods specified in the agreement, generally the research and development period. Revenue from substantive milestones and future product royalties is recognized as earned based on the completion of the milestones and product sales, as defined in the respective agreements. Payments received in advance of recognition as revenue are recorded as deferred revenue.

Research and Development Expenses

Research and development expenses include salaries and benefits, trial (both pre-clinical, clinical and other) and manufacturing costs, contract and other outside service fees, and facilities and overhead costs related to our research and development efforts. Research and development expenses also consist of costs incurred for proprietary and collaborative research and development. Research and development costs are expensed as incurred.

Impairment of Long-lived Assets

We review our long-lived assets for impairment whenever events or changes in business circumstances indicate that the carrying amount of assets may not be fully recoverable or that our assumptions about the useful lives of these assets are no longer appropriate. If an impairment is indicated, the asset is written down to its estimated fair value based on quoted fair market values.

Valuation of Goodwill

In accordance with *Statement of Financial Accounting Standards, or SFAS, No. 142, Goodwill and Other Intangible Assets*, we review goodwill for impairment annually and whenever events or changes in circumstances indicate that the carrying value may not be recoverable. Goodwill is tested for impairment by comparing the fair value of the reporting unit to its carrying value. Our estimate of fair value is based on our current market capitalization. If the implied fair value of goodwill is less than its carrying value, an impairment charge would be recorded. As of September 30, 2006, the $999,000 of goodwill related to Aonex was determined to be impaired and was written off.

Intellectual Property

Intellectual property consists of patents and patent applications licensed or purchased from universities or third parties. Patents and patent applications are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Patents that we license are written off over the life of the patent unless impairment occurs.

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/cfcrg032001.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 dates;***

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 finally***

f. ***The period in which material net cash inflows from significant projects 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.

Response to Comment 2: Arrowhead conducts substantially all of its research and development activities through its separate majority-owned subsidiaries, rather then as projects at the Arrowhead parent-company level. Our goal is to build a significant subsidiary(ies) over time, and it is expected that all the commercialization will take place at the subsidiary level. Our development efforts are focused in each subsidiary based upon common technology. It is expected that additional capital will be required at each subsidiary beyond what is committed, but we are not able to quantify the amount at this time. Our inability to quantify the amounts is a

result of two factors. First, we are not sure if in the long run, we will solely fund the development. Second, in the case of Insert and Calando, our proposed products are subject to review and approval by the FDA and we have no way of accurately predicting the result, timing or extent of clinical trials that may be required.

To respond to the Staff's comments, we propose to insert the following text at the beginning of the "Research and Development Expenses" Section of MD&A:

> Arrowhead takes a portfolio approach to research and development by operating multiple subsidiaries which allows the pursuit of multiple opportunities and, we believe, diversifies risk. Currently, Arrowhead operates four majority-owned Subsidiaries commercializing nanotech products and applications, including anti-cancer drugs, RNAi therapeutics, carbon-based electronics and compound semiconductor materials, and also funds a number of prototype development efforts in leading university labs in exchange for the exclusive right to license the technology developed in such labs. Each Subsidiary is staffed with its own technical and business team that focuses on its specific technology and markets while Arrowhead provides financial, strategic and administrative resources.
>
> The tables below set forth Arrowhead's the approximate amount of research and development expenses for each Subsidiary.

Name of Subsidiary / Project	R&D expenses for year ended September 30, 2006	R&D expenses for year ended September 30, 2005	R&D expenses for year ended September 30, 2004	Project cost from inception of Project through September 30, 2006
Calando Pharmaceuticals, Inc. / CALAA-01	$ 1.7Million	$ 0.3Million	—	$ 2.0Million
Insert Therapeutics/ IT 101	$ 3.7Million	$ 2.3Million	$ 0.2Million	$ 6.2Million
Aonex Technologies, Inc. / Wafer Fabrication	$ 1.7Million	$ 1.6Million	$ 0.3Million	$ 3.6Million
Unidym, Inc. / Thin Film Carbon Nanotubes	$ 0.1Million	—	—	$ 0.1Million
Total of all Subsidiaries	$ 7.2Million	$ 4.2Million	$ 0.5Million	$ 11.9Million

We further propose to delete the second, third and fourth paragraphs following the table of research and development expenses at the beginning of the "Research and Development Expenses" Section of MD&A and to insert the following text at the end of the Section.

> **Calando Pharmaceuticals, Inc.**
>
> The Company believes in commercial potential of RNAi in general and in Calando in particular. This belief is supported by the recently announced purchase of Sirna Therapeutics, Inc. by Merck & Co. for $1.1 billion and the award of a Nobel Prize for the

discovery of RNAi, and evidenced by the Company's decision to invest an additional $3 million in Calando in March 2006 and to commit to invest an additional $7 million upon Calando achieving certain milestones.

At the end of fiscal 2006, the Company finalized its purchase accounting for its acquisition of 1,224,000 shares of Calando's common stock from various minority shareholders for an aggregate price of $2,448,000 in series of transactions during 2006. Payment for the shares included a total of $1,370,667 in cash and $1,077,333 of Arrowhead common stock. The Interpretations of SFAS NO. 141, "Business Combinations", do not provide specific guidance on proper accounting treatment for this type of acquisition; consequently, the Company has elected to take a conservative approach and account for the acquisition of the Calando minority interests as a purchase of in-process research and development, rather than allocate any of the purchase price to goodwill at September 30, 2006. As a result, $2,448,000 was recorded as acquired in-process research and development and is included in Research and Development expense for the fiscal year ended September 30, 2006.

Calando's lead product candidate, CALAA-01, is a formulation containing Calando's proprietary delivery technology with an siRNA duplex targeting the M2 subunit of ribonucleotide reductase, a well-established cancer target. Alnylam Pharmaceuticals, Inc. has granted Calando a license under Alnylam's InterfeRx(TM) technology to discover, develop, and commercialize an RNAi therapeutic utilizing a synthetic siRNA, together exclusively with Calando's proprietary delivery technology, that is directed towards the M2 subunit of ribonucleotide reductase as a cancer target. As part of the agreement, Calando also has an option to acquire an InterfeRx license for a second target gene. The licensing arrangement includes upfront, annual, and milestone payments, and royalties on sales of any products covered by the licensing agreement. Calando is preparing an IND application with the FDA that it expects to file in the fall of 2007, and it hopes to begin its first clinical trial before the end of calendar 2007. Calando's research and development efforts on CALAA-01 are preliminary, and there is no assurance that this compound will be successful or that it will progress to clinical trials. Advancing this development candidate into human clinical trials is dependent on several factors, including technological feasibility and commercial opportunity as well as the availability of financial resources. Research and development expenses related to CALAA-01 are reflected in the tables above. It is not possible at this time to accurately determine the final cost of CA1AA-01, the completion date, or when revenue will commence. If Calando meets its milestone objectives (see *Note 6*, *Commitments and Contingencies*, to our Consolidated Financial Statements for an explanation of those milestones), it should have sufficient capital until the end of the second quarter of fiscal 2008.

Insert Therapeutics, Inc.

Insert was purchased by the Company in June 2004. One of the main reasons for the purchase was the Insert license with Caltech for the patent covering drug delivery using synthetic polymers for use primarily in drug delivery applications. Under the terms of that license agreement, Caltech acquired an equity interest in Insert and is entitled to royalty payments on sales of any products covered by the license agreement. In fiscal 2004 and fiscal 2005, Insert continued research and development of its anti-cancer therapeutic IT-101, which is based upon the Caltech patent. On March 14, 2006, Insert received approval for its IND application from the FDA for IT-101 and began Phase I clinical trials in the third quarter of calendar 2006. Insert is beginning to do commercialization work on tubulysins with full scale work to begin in fiscal 2007. Insert is also preparing for Phase II trials of IT-101. Research and development expenses related to IT-101 are reflected in the tables above. It is not possible at this time to accurately determine the final cost of IT-101, the completion date, or when revenue will commence. Following a private placement of Insert stock completed in October 2006 (*See Note 11, Subsequent Events*, to our Consolidated Financial Statements for further details), Insert has sufficient cash to fund current development efforts through the second quarter of fiscal 2008.

Aonex Technologies, Inc.

Aonex is currently seeking a partner to help in the continued development of blue and white LEDs. Aonex engineers wafers that are comprised of thin films of materials suitable for fabrication of blue and white LEDs, and that have been bonded onto specially engineered support wafers using a proprietary process. By optimizing the support wafer’s properties, Aonex is able to simplify the manufacture of high efficiency LED structures, improve yields, and offer a viable path to larger wafer sizes (and corresponding lower costs). Aonex has performed testing of prototypes of its products and is shipping samples to potential partners. Research and development expenses related to Aonex wafers are reflected in the tables above. Aonex continues to build and ship product but in a phase down mode. It is not possible at this time to accurately determine the final cost of Aonex development efforts, the completion date, or when revenue will commence as ongoing negotiation for a large partner must be completed first.

Unidym, Inc.

Unidym (formally NanoPolaris) is focusing on film to film carbon nanotubes. The Subsidiary is just starting commercialization activities and expenses will increase in the future as the company ramps up. Arrowhead has committed $2,000,000 in fiscal 2007 and fiscal 2008 for this ramp up. The Company hopes to generate revenue in fiscal 2008; however, due to the start up nature of Unidym’s operation, it is not possible at this time to accurately determine the final cost, the completion date, or the exact date when revenue will commence.

Factors Affecting Further R&D Expenses

The Company expects that research and development expenses will continue to increase in the foreseeable future as it adds personnel, expands its pre-clinical research, begins clinical trial activities, and increases its regulatory compliance capabilities. The amount of these increases is difficult to predict due to the uncertainty inherent in the timing and extent of progress in the Company's research programs. As the Company's research efforts mature, it will continue to review the direction of its research based on an assessment of the value of possible commercial applications emerging from these efforts.

In addition to these general factors, specific factors that will determine the eventual cost to complete the current projects at Insert and Calando include the following:

- the number, size and duration of clinical trials required to gain FDA approval;
- the costs of producing supplies of the drug candidates needed for clinical trials and regulatory submissions;
- the efficacy and safety profile of the drug candidate; and
- the costs and timing of, and the ability to secure, regulatory approvals.

It is possible that the completion of studies could be delayed for a variety of reasons, including difficulties in enrolling patients, delays in manufacturing, incomplete or inconsistent data from the pre-clinical or clinical trials, and difficulties evaluating the trial results. Any delay in completion of a trial would increase the cost of that trial, which would harm the Company's results of operations. Due to these uncertainties, the Company cannot reasonably estimate the size, nature nor timing of the costs to complete, or the amount or timing of the net cash inflows from the Subsidiaries' current activities. Until the Company obtains further relevant pre-clinical and clinical data, it will not be able to estimate its future expenses related to the Subsidiaries' programs or when, if ever, and to what extent, the Company will receive cash inflows from resulting products.

The risks outlined in Item 1A of this 10-K/A must also be taken into account when reading this MD&A.

Liquidity and Capital Resources, page 35

3. Your table of contractual obligation 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.

Response to Comment 3: We propose to replace the existing text under "Contractual Obligations and Commitments" on page 36 in the MD&A with the following:

	Total	Less than 1 year	1-3 Years	3-5 Years	More than 5 Years
Operating Lease Obligation	$1,781,486	$664,949	$768,193	$348,344	$ —
Sponsored Research	$1,358,948	$941,593	$417,355	$ 0	$ —

In addition, the Company has contracts to provide material, testing and contract labor. None of those contracts goes beyond one year and almost all contracts are month to month.

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.***

Response to Comment 4: We concur and propose incorporating this change in future reports filed with the SEC.

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.***

Response to Comment 5: We concur and propose incorporating this change in future reports filed with the SEC.

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 the 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 the patent and concluded that the carrying amount of the patent is still recoverable.***

Response to Comment 6: We propose to insert a cross-reference in the “Intellectual Property” paragraph on page F-9 to the discussion of our investment in Insert Therapeutics, Inc. on page F-11. We propose to replace the text under “Insert Therapeutics, Inc.” in Note 3 on page F-11 with the following:

On June 4, 2004, Arrowhead purchased 24,496,553 shares of Series B Preferred Stock, representing a 62% controlling interest, of Insert Therapeutics, Inc., a company based in Pasadena, California, for $1,000,000. At acquisition, Arrowhead also agreed to pay an additional $4,000,000 in consideration contingent upon the attainment of certain milestones in the development of Insert’s business. Since June 4, 2004 Arrowhead has paid the entire additional $4,000,000 in consideration. If the additional consideration was not paid following the achievement of these milestones, Arrowhead would have forfeited its controlling ownership interest. The commitment to pay additional consideration was disclosed in filings made with the SEC. Arrowhead accounted for this transaction under SFAS 141, Business Combinations, as described in greater detail below

On March 23, 2005, Arrowhead purchased 7,375,000 shares of Insert common stock from two minority stockholders of Insert for 502,260 newly issued shares of Arrowhead Common Stock. The additional investment increased Arrowhead’s net ownership of Insert by approximately 7%, from approximately 62% to approximately 69% of Insert’s outstanding voting securities. The Arrowhead Common Stock issued in the transaction was valued at $2,000,000 based on the closing market price of Arrowhead Common Stock on NASDAQ on March 23, 2005. The additional consideration paid for the 7,375,000 common shares was allocated among the assets of Insert, primarily patents, as described below.

On March 29, 2005, Arrowhead exchanged 4,000,000 shares of the Series B Preferred Stock of Insert for 4,000,000 shares of Series C Preferred Stock of Insert. The Series C Preferred Stock has a liquidation preference senior to the Series B Preferred Stock.

On March 31, 2005, Arrowhead sold 2,640,000 shares of its Series C Preferred Stock to qualified investors for $1.00 per share. Net proceeds of the sale were $2,424,924. Arrowhead recognized a gain of $2,292,800 on the sale.

As of September 30, 2006, Arrowhead owned 68.3% of the outstanding voting securities of Insert. As of September 30, 2006, Arrowhead had loans outstanding to Insert in the principal amount of $2,300,000, bearing simple interest at 6 percent The loans and all accrued and unpaid interest were repaid in full following the completion of Insert’s financing in October 2006. *See Note 11, Subsequent Events*, for further details. Following the October 2006 financing, Arrowhead owned 64.5% of the outstanding voting securities of Insert. *See Note 11, Subsequent Events*, for further details.

Developing new drugs for market is a long process expected to last years. At the time of Arrowhead’s initial purchase of Insert securities in June 2004, Insert was in the process of developing unique intravenous drug delivery technologies for cancer therapeutics. The delivery system enables Insert to develop its own pharmaceutical products and provide customized drug delivery solutions for others. In addition to

intravenous use, the delivery system may also be effective for use in tablets, topical ointments and inhalers. At the time, the primary assets of Insert were 14 patents and/or patent applications filed with the United States Patent and Trademark Office, as well as foreign counterparts in Europe, Japan and other countries. Insert's initial patent was issued in January 2003 for a linear cyclodextrin copolymer drug delivery technology. Two of the US patents have since been issued covering the compositions of matter, methods of use, manufacturing and purification processes and routes of delivery. The initial payment of $1,000,000, the additional contingent consideration of $4,000,000 and the purchase of shares from the minority shareholders for $2,000,000 in March 2005, have been accounted for under SFAS 141. In accordance with paragraphs 26 and 27 of SFAS 141**,** the $4,000,000 of contingent consideration was accounted for as an additional cost of the acquired entity. The purchase price was allocated to the assets acquired and liabilities assumed based on their estimated fair values. The primary assets acquired are patents, which have alternative use.

Based upon the offers we have received from unrelated third-parties, we estimate the actual value of the patents exceeds the amounts shown on the consolidated balance sheet.

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 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.*

Response to Comment 7: We concur with comment 7 and propose to write off the remaining Calando goodwill and its related minority interest as in-process research and development with the filing of our next 10-Q. The impact of this adjustment is immaterial as it would increase the 2006 consolidated net operating loss by $174,510, or 0.92%, on a reported net consolidated operating loss of $18,997,209, before adjustment. The adjustment eliminates $963,150 of Calando goodwill and reduces Calando's minority interest on the balance sheet by $788,640 resulting in a net increase in the operating loss of $174,510.

Unlike the acquisition of Insert, Aonex and Calando were formed by Arrowhead. Arrowhead made an initial cash investment in Aonex and Calando for a controlling interest, with an option to invest additional capital at a later date. The original accounting upon the formation of Aonex and Calando resulted in a minority interest balance being recorded on the balance sheet in proportion to the minority interest's proportionate share of ownership in the Subsidiary, in accordance with our interpretation of SFAS 141/142. However, after further review of SFAS 141/142, EITF 00-4, EITF 00-6, and FIN 46(R), Arrowhead found nothing authoritative that

specifically addressed the accounting for this same combination of facts. We also searched the SEC database for public filings for other organizations with identical combinations of facts and found none. We therefore conclude that it is more appropriate to eliminate any remaining goodwill and minority interest related to either of these two subsidiaries.

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:***

- Describe the "certain milestones" expected to be achieved in 2007 and 2008.
- 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.

Response to Comment 8: We propose to add the following text to the end of the paragraph at the bottom of page F-16:

> In deciding whether to make an additional capital contribution, the Company looks at such factors as progress toward a milestone and what the management is doing and how management is doing with their spending plan. Since the Company keeps close tabs on the subsidiaries, the decision regarding funding milestones is made well in advance of the milestone date or event. Should Calando or Unidym meet their milestones and the Company decides not to fund further, the Company would still own a majority of the outstanding voting securities of each company.

We further propose to replace the footnotes to the first table on page F-17 as follows:

(1) Under its Agreement to Provide Additional Capital with Calando, Arrowhead has the obligation to provide Calando up to $7,000,000 in additional capital based upon the achievement of certain development milestones. The first of these milestone payments ($1,000,000) is for commencement of IND-enabling toxicity studies and is projected to be due during the second quarter of fiscal 2007. The second milestone payment ($3,000,000) is for filing of the IND with the FDA and is projected to be due during the fourth quarter of fiscal 2007. The last of these milestone payments ($3,000,000) is for the submission of

documents to the FDA to begin Phase II clinical trials and the filing of a second IND with the FDA for a new therapeutic, and is projected to be due during the third quarter of fiscal 2008.

(2) Under its Agreement to Provide Additional Capital with Unidym, Arrowhead has the obligation to provide Unidym up to $4,000,000 in additional capital. Milestone payments of $2,000,000 each are payable in June 2007 and in June 2008 and are based upon dates rather then accomplishments.

9. ***Under sponsored research and development efforts with four universities. you provide funding in exchange for the "the right to exclusively license and commercialize any technology developed as a result of that research." Please expand the 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.***

Response to Comment 9: We propose to add the following to the beginning of the paragraph under "Sponsored Research" on page F-17:

By funding university research, Arrowhead has the opportunity to ascertain the technical success at low research cost and, if warranted, continue cost effective development at the university by leveraging the already existing resources available to scientists at universities, such as laboratories and equipment as well as a culture that encourages the exchange of ideas. Moreover, the cultivation of relationships in the academic community provides an additional window into other promising technologies. The Company has the exclusive right to the technology developed by the research it sponsors, and if such technology appears to have commercial applications the Company can form a majority-owned subsidiary to develop the technology and provide stock in the subsidiary to the scientist and the university in order to give them an economic interest in seeing the subsidiary succeed. Should the related technology prove to be too hard or too expensive to commercialize, Arrowhead may terminate the license agreement and return the licensed intellectual property to the university.

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.***

Response to Comment 10: We previously filed redacted licenses agreements for Alnylam and Caltech. The significant terms of these licenses are disclosed in the discussion of our collaboration and licensing arrangements on page 10 of the 10-K. The warrants for Calando (not Aonex) were issued at the formation of the Calando. There was no accounting entry necessary but we disclosed the impact that exercising the warrants would have upon Arrowhead's ownership of Calando. The warrants were exercised in the first quarter of fiscal 2007, and Arrowhead's ownership in Calando was proportionately diluted. Arrowhead and its Subsidiaries have contracts with vendors to provide material, testing and contract labor; however, none of those contracts go beyond one year and almost all contracts are month to month. We have included a statement to this effect in our response to Comment 3, above.

*** * ***

We hope that this provides an adequate response to the Staff's concerns. We would appreciate any attention you can give to this matter. If you have any question about the answers above or wish to discuss them prior to our filing of the amended 10-K, please call me at (626) 304-3400 or email me at ted@arrowres.com.

Sincerely,

/s/ Joseph T. Kingsley

J. T. (Ted) Kingsley
Chief Financial Officer

cc:

Rachael Wexler, Esq.
Mitchell Bloom, Esq.
Benjamin Hron, Esq.