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September 26, 2006

By EDGAR Transmission

Securities and Exchange Commission
Division of Corporation Finance
100 F Street, NE
Washington, D.C. 20549
Attention: Jim B. Rosenberg

RE: Idera Pharmaceuticals, Inc. (File No. 011-31918)
Form 10-K for the Fiscal Year Ended December 31, 2005
Filed March 31, 2006
Form 10-Q for the Fiscal Quarter Ended June 30, 2006
Filed August 14, 2006

Ladies and Gentlemen:

On behalf of our client Idera Pharmaceuticals, Inc. ("Idera" or the "Company"), we have set forth below responses to the comments provided to Mr. Robert G. Andersen by Mr. Jim B. Rosenberg, a Senior Assistant Chief Accountant of the staff of the Commission (the "Staff") in a letter dated September 12, 2006 (the "Letter"). Such responses are based upon information provided to us by the Company. The responses are keyed to the numbering of the comments in the Letter and to the headings used in the Letter.

Form 10-KSB for the Fiscal Year Ended December 31, 2005

Management's Discussion and Analysis of Financial Condition and Results of Operations
Research and Development Expenses, page 30

1. *We acknowledge your response to comment 1 and your assertion that IMO-2055 is your "sole major research and development program." However, given that you disclose your project pipeline on page 2 and the fact that you only speak to approximately 31% of your total research and development expense in discussing the direct expenses related to IMO-2055 for the year ended December 31, 2005, we believe that your disclosure could be enhanced for investors. Please provide, in disclosure-type format, quantitative and qualitative information on another basis that reconciles to your total research and development expense for the financial statement periods presented. Alternative presentations could show a breakdown of internal vs. external costs incurred with respect to IMO-2055 and your other projects and could detail these costs further by some other category. For example, including the costs incurred for preclinical, clinical and non-clinical trials would be informative. Please note that our comment only presents a suggested format that is intended to allow investors to better understand the composition of these expenses. If you do not feel this proposed format is applicable to your business, then please provide us similar disclosure in another format that will allow an investor the desired insights into your research and development costs.*

Response: In future filings under the Securities Exchange Act of 1934, as amended, the Company will revise its disclosure regarding its research and development expenses in response to the Staff's

comment to include a table setting forth three categories of research and development expenses and separate discussions of each line item. The Company anticipates that its revised disclosure for the quarter ending September 30, 2006 would be similar to the following, subject to changing facts:

"Research and Development Expenses

Research and development expenses [increased/decreased] by $, or % from $ for the three months ended September 30, 2005 to $ for the three months ended September 30, 2006 and [increased/decreased] by $ or % from $ for the nine months ended September 30, 2005 to $ for the nine months ended September 30, 2006. The [increase/decrease] in the three months ended September 30, 2006 was primarily attributable to . The [increase/decrease] in the nine months ended September 30, 2006 was primarily attributable to .

	Three months ended September 30,			Nine months ended September 30,		
	2006	2005	Percentage Increase (Decrease)	2006	2005	Percentage Increase (Decrease)
IMO-2055 External Development Expense						
Other Drug Development Expense						
Basic Discovery Expense						
Total Research and Development Expense						

In the preceding table, research and development expense is set forth in the following three categories:

IMO-2055 External Development Expense. These expenses include external expenses that we have incurred in connection with IMO-2055, which we are developing for oncology applications under the name IMOxine. These external expenses reflect payments to independent contractors and vendors for clinical and preclinical studies and drug manufacturing and related costs but exclude internal costs such as payroll and overhead. Since the date we commenced clinical development of IMO-2055, we have incurred approximately $ in external expenses in connection with IMO-2055. The [increase/decrease] in these expenses in the three months ended September 30, 2006 was primarily attributable to . The [increase/decrease] in these expenses in the nine months ended September 30, 2006 was primarily attributable to .

In October 2004, we commenced patient recruitment for an open label, multi-center Phase 2 clinical trial of IMO-2055 as a monotherapy in patients with metastatic or recurrent clear cell renal carcinoma. The primary endpoint of the trial is to determine the tumor response, measured by the increase or decrease in size, by a standard approach referred to as RECIST, which stands for Response Evaluation Criteria in Solid Tumors. Secondary objectives include safety, duration of response, time to progression, survival through 12 months after the last dose, and the effect of the treatment on quality of life. The trial was designed as a two-stage trial. Stage A of the trial provided for the evaluation of IMO-2055 at two dose levels, 0.16 mg/kg, and 0.64 mg/kg, administered by weekly subcutaneous injection. Based on tumor response rates experienced with drugs in clinical use for kidney cancer as of the initiation date for our Phase 2 trial, the statistical design for Stage A of the trial required 23 patients for each dose level. We

originally planned to recruit into Stage A of the trial a minimum of 46 patients who had previously failed one prior therapy for the treatment of metastatic or recurrent clear cell renal carcinoma, who we refer to as second-line patients. We also expected to enroll in Stage A of the trial some patients who had received no prior therapy for metastatic or recurrent clear cell renal carcinoma, who we refer to as treatment-naïve patients. We expected a low number of treatment-naïve patients, and the original protocol did not specify a target enrollment for treatment-naïve patients. In October 2005, in response to a higher than expected enrollment rate of treatment-naïve patients in the Phase 2 trial, we submitted to the FDA a protocol amendment that provided for the enrollment of up to 46 treatment-naïve patients in Stage A, in addition to the 46 second-line patients provided for by the original study design. Recruitment has been slower than we projected, in part due to the clinical trial activities of other companies and the recent approval of two new therapies, Nexavar® and Sutent®, for the treatment of the same patient population. We expect to complete enrollment for Stage A of the trial in . Since we cannot predict how long patients will remain on IMO-2055 treatment, we cannot estimate when we will have final results for Stage A of the trial. Decisions with regard to Stage B of the trial will depend on the Stage A results.

In October 2005, we initiated a Phase 1/2 clinical trial of IMO-2055 in combination with the chemotherapy agents gemcitabine, marketed by Eli Lilly as Gemzar®, and carboplatin at the Lombardi Comprehensive Cancer Center at Georgetown University Medical Center. We enrolled eight refractory solid tumor patients in the original Phase 1 part of the trial. We are seeking to enroll 12 to 18 additional refractory solid tumor patients in the amended Phase 1 portion of the trial for further evaluation of the safety of the combination. If successful, we plan to use Phase 1 data for dose selection for the subsequent Phase 2 portion of the trial as first-line treatment of non-small cell lung cancer patients.

We recently announced the formation of an Oncology Clinical Advisory Board to advise us on additional clinical programs with IMO-2055. We plan to consider the advisory board's recommendations, and determine which cancer indications to pursue based on the IMO-2055 mechanism of action and clinical and preclinical data. Once we make these determinations, we plan to develop one or more appropriate protocols for FDA review and plan to initiate one or more new trials commencing at the earliest in 2007. If we were to commence such a trial or trials in 2007, our IMO-2055 expenses would increase significantly commencing in 2007.

Other Drug Development Expense. These expenses include internal and external expenses associated with preclinical development of identified compounds in anticipation of advancing these compounds into clinical development and internal costs associated with products in clinical development. The internal and external expenses associated with preclinical compounds include payments to contract vendors for manufacturing and the related stability studies, preclinical studies including animal toxicology and pharmacology studies and professional fees, as well as payroll and overhead. The internal expenses associated with products in clinical development include payroll and overhead. The [increase/decrease] in these expenses in the three months ended September 30, 2006 was primarily attributable to . The [increase/decrease] in these expenses in the nine months ended September 30, 2006 was primarily attributable to .

Basic Discovery Expense. These expenses include our internal and external expenses relating to the continuing development of our IMO technology, research to identify additional compounds, and the maintenance and expansion of our patent portfolio. These expenses reflect payments for lab supplies, external research, professional fees, fees, for filing, prosecuting and maintaining patents and technology license fees, as well as, payroll and overhead. The [increase/decrease] in these expenses in the three months ended September 30, 2006 was primarily attributable to . The

[increase/decrease] in these expenses in the nine months ended September 30, 2006 was primarily attributable to .

We do not know if we will be successful in developing IMO-2055 or any of our other product candidates. At this time without knowing the final results of our ongoing clinical trials of IMO-2055 and without having agreed upon a development strategy and pathway with the FDA, we cannot reasonably estimate or know the nature, timing and costs of the efforts that will be necessary to complete the remainder of the development of, or the period, if any, in which material net cash inflows may commence from, IMO-2055. Moreover, the clinical development of IMO-2055 or any of our other product candidates is subject to numerous risks and uncertainties associated with the duration and cost of clinical trials, which vary significantly over the life of a project as a result of unanticipated events arising during clinical development, including with respect to:

- the number of clinical sites included in the trials;
- the length of time required to enroll suitable subjects;
- the number of subjects that ultimately participate in the trials; and
- the efficacy and safety results of our clinical trials and the number of additional required clinical trials."

Balance Sheets, page F-3

2. *We acknowledge your response to comments 2 and 7. Please tell us whether you are relying on AU Section 560 to support your inclusion of the pro forma balance sheets in both your December 31, 2005 Form 10-K and June 30, 2006 Form 10-Q to reflect your subsequent private placement financing transactions. Depending on the resolution of comment 4 below, the December 31, 2005 pro forma balance sheet may require adjustment to reflect the fair value of the registration rights agreement and/or the warrants as a liability.*

Response: The Company believes that the guidance of AU Section 560, Subsequent Events (paragraphs 05 and 06), supports the Company's inclusion of the pro forma balance sheet in both its December 31, 2005 Form 10-K and June 30, 2006 Form 10-Q to reflect the Company's subsequent private placement financing transactions, because as discussed in the Company's responses to comment #2 and comment #7 included in the letter to the Staff dated August 30, 2006 (the "First SEC Response Letter"), each of these private placements constituted a significant change warranting the inclusion of pro forma information.

Notes to Consolidated Financial Statements
(15) Equity Financings, page F-28

3. *We acknowledge your response to comment 4. In your response, you assert that the warrants issued in conjunction with your August 2003 private placement transaction do not have a net settlement feature; however, your disclosure appears to contradict this assertion, as you state that these warrants may be settled by "invoking a cashless exercise feature." Please clarify this discrepancy for us and provide us with the agreement underlying these warrants to support your position. Additionally, please provide us with information that supports your assertion that the 1% penalty related to the registration rights agreement for these warrants is a discount that reasonably reflects*

the fair value of the restricted (unregistered) shares and why you concluded that the registration rights agreement is not a derivative. Please refer to EITF No. 05-4. Please also tell us whether you ultimately registered the shares underlying these warrants.

Response:

Registration of Shares Underlying Warrants

The resale of the shares underlying the warrants issued in the August 2003 private placement are covered by a Registration Statement on Form S-2 that the Company filed with the SEC on October 10, 2003, which was declared effective on December 9, 2003. The agreements underlying these warrants are attached to this letter.

Net Share Settlement

As discussed in the Company's First SEC Response Letter, the warrants may be exercised, at the investor's election, through (a) physical settlement by paying cash equal to the exercise price in return for the underlying shares or (b) net share settlement by canceling a portion of the warrants in payment of the exercise price of the number of warrants exercised in return for the net underlying shares.

The Company acknowledges that the disclosure included in the Company's December 31, 2005 Form 10-K stated that these warrants may be settled by "invoking a cashless exercise feature". However, the "cashless exercise feature" disclosed referred to the warrants "net share settlement" feature (as discussed in clause (b) above) which is described in Section 1(b) of each of the warrant agreements. The warrant agreements do not contain a "net cash settlement" feature.

Registration Rights Agreement/Penalty

Based upon market conditions at the time (including similar financings within the industry), advice received from the Company's placement agents and legal advisors and competitive financing offers from other sources, the Company concluded that the 1% penalty related to the registration rights agreement reasonably reflects the difference in the fair value of the restricted (unregistered) shares as compared to registered shares. As discussed in the Company's First SEC Response Letter, this type of discount was contemplated by the Task Force in Issue 00-19 and is described in paragraph 16 of that Issue. As a result, the Company has concluded that the delivery of unregistered shares should be considered an economic alternative and the warrants should be classified as equity (given that, as described in the First SEC Response Letter, the other criteria of EITF 00-19 have been met).

Additionally, paragraph 11(a) of SFAS No. 133, as amended, specifically excludes from its scope "contracts issued or held by that reporting entity that are both (1) indexed to its own stock and (2) classified in stockholders' equity in its statement of financial position." Accordingly, classification of the warrants as equity under EITF 00-19 also exempts the warrants from the scope of SFAS No. 133.

The Company respectfully reminds the Staff that the issues underlying EITF 05-4 had not been raised at the time of the August 2003 private placement and, as subsequently determined by the EITF, diversity in practice existed (and continues) regarding the accounting for registration rights agreements. In any event, the Company concluded that even if the registration rights agreement were considered a derivative, it had no significant fair value given the following considerations:

1. While the registration rights agreement contained a 1% monthly penalty for failure to file a registration statement covering the resale of the shares issuable upon exercise of the warrants within 135 days of the date of the agreement, the Company met this requirement without incurring a penalty when it filed its Registration Statement on Form S-2 on October 10, 2003, 35 days before the Company filed its 3rd Quarter 2003 Form 10-Q, which is the first filing with the SEC that included financial statements related to the August 2003 private placement, and 92 days before the registration rights penalty would have been triggered if the Company had failed to file such registration statement.

2. The Company knew (with certainty) before the August 2003 financing was initially reported in its third quarter 2003 financial statements that a penalty would never be assessed under the registration rights agreement. Furthermore, the registration rights agreement did not contain a penalty for failure to obtain or maintain effectiveness of the Registration Statement covering the resale of the shares issuable upon exercise of the warrants. Therefore, it was also clear that no further penalties could be assessed against the Company in any subsequent reporting periods. As a result, the fair value of the derivative was zero subsequent to October 10, 2003 given that the Company only had a "best efforts" obligation to ensure that the registration statement was declared effective (which was subsequently achieved in December 2003).

Form 10-Q for the Fiscal Quarter Ended June 30, 2006
Notes to Consolidated Financial Statements
(12) Private Financing, page 11

4. We acknowledge your response to comment 6. Please provide us with additional information, in a disclosure-type format, that supports your assertion that the penalty associated with the registration rights agreement for the warrants issued pursuant to your March 2006 private placement transaction represents a discount that reasonably reflects the fair value of the restricted (unregistered) shares and why you concluded that the registration rights agreement is not a derivative. Please refer to EITF No. 05-4.

Response:

Registration of Shares Underlying Warrants

The resale of the shares underlying the warrants issued in connection with the 2006 Private Financing are covered by a Registration Statement on Form S-3 that the Company filed with the SEC on April 21, 2006, which was declared effective on May 5, 2006.

Registration Rights Agreement

The Company concluded that the registration rights agreement entered into in connection with the 2006 Private Financing does not represent a derivative given the following considerations. The Company notes that its conclusions set forth below are consistent with View A described in Issue Summary No. 1 to EITF 05-4:

1. The warrant agreement and the registration rights agreement should be considered together because:

a) they were entered into contemporaneously, in contemplation of one another, and between the same parties;

b) the common stock to be registered pursuant to the registration rights agreement (and for which the penalty will be paid if the registration statement is not declared effective by the designated deadline) includes shares of common stock that would be used to settle the warrants upon exercise; and

c) The warrant agreement and the registration rights agreement are not separately exercisable and legally detachable as required by paragraph 2 of Issue 00-19 because the liquidated damages clause (the "Penalty Premium") is in substance designed to make the investor whole for the receipt of unregistered stock and the Company does not believe that any investor would have agreed to participate in the financing without the registration rights agreement. As a result, the Company has linked, receipt of Penalty Premium under the registration rights agreement to the payoff of the warrant.

2. The warrant has two settlement alternatives: (a) the delivery of shares that can be re-sold under a registration statement ("registered shares") in exchange for the exercise price (including the initial delivery of unregistered shares that are subsequently registered prior to the penalty provision being activated) or (b) the delivery of shares that cannot be re-sold under a registration statement ("unregistered shares"), plus the liquidated damages cash penalty required to be paid under the registration rights agreement, in exchange for the exercise price. The Company has concluded that because the 10% maximum liquidated damages penalty was less than the difference between the fair values of the registered and unregistered shares (as discussed below), the delivery of unregistered shares should be considered an economic alternative and the combined financial instrument should be classified as equity (given that, as described in the First SEC Response Letter the other criteria of EITF 00-19 have been met). Additionally:

   a. Paragraph 11(a) of SFAS No. 133, as amended, specifically excludes from its scope "contracts issued or held by that reporting entity that are both (1) indexed to its own stock and (2) classified in stockholders' equity in its statement of financial position." Accordingly, classification of the combined financial instrument as equity under EITF 00-19 also exempts it from the scope of SFAS No. 133.

   b. The Company concluded that the 1% penalty (subject to a 10% maximum penalty) related to the March 2006 Private Financing registration rights agreement is less than the difference in the fair value of the restricted (unregistered) shares as compared to the registered shares based upon a comparison to the Financing Commitment (which included predominately registered shares) that took place at the same time (both financings are described in Note 16 to the Company's 2005 audited financial statements):

      i) The $9.8 million Private Financing consisted of the sale of unregistered shares at a 33% discount to market;

ii) On the same day, the Company secured a $9.8 million Financing Commitment with a minimum per share purchase price equal to a 3% discount to market. Approximately 75% of the shares to be sold under the Financing Commitment must be registered before the Company can draw upon the funds (In an amendment to the agreement executed subsequent to the Form 10-K filing, this amount was decreased to approximately 64%). The remaining shares could be sold unregistered;

Note: For simplicity, the impact of the warrants on the discounts described in i) and ii) above have been ignored since there were more warrants issued in the Private Financing transaction than in the Financing Commitment transaction and they would therefore not change the relative discounts of the two financings.

iii) Since the two financing transactions were for the same dollar amount and were secured on the same day, the Company believes that they provide a reasonable basis for estimating the difference in the fair value between registered and unregistered shares through a comparison of the 33% discount on the unregistered shares from the Private Financing to the 3% discount on the predominately registered shares of the Financing Commitment.

iv) Given that: (a) the 10% maximum liquidated damages penalty was less than the 30% difference between the fair values of the registered and unregistered shares; and (b) this type of discount was contemplated by the Task Force in Issue 00-19 and is described in paragraph 16 of that Issue; the delivery of unregistered shares should be considered an economic alternative (as previously noted in the first paragraph of this clause 2).

c. Based upon market conditions at the time (including similar financings within the industry), advice received from the Company's placement agents and legal advisors and competitive financing offers from other sources, also supported the Company's conclusion that the 1% penalty related to the registration rights agreement reasonably reflects the fair value of the restricted (unregistered) shares.

If you require additional information, please telephone the undersigned at the telephone number indicated above.

Very truly yours,

/s/ Stuart M. Falber

Stuart M. Falber

cc: Jeffrey Riedler (Securities and Exchange Commission)
Sudhir Agrawal (Idera Pharmaceuticals, Inc.)
Robert Karr (Idera Pharmaceuticals, Inc.)
Robert G. Andersen (Idera Pharmaceuticals, Inc.)
Brendan McCorry. (Ernst & Young LLP)