



DIVISION OF
CORPORATION FINANCE

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

March 21, 2010

Mr. John L. McManus
President and Chief Executive Officer
Aeolus Pharmaceuticals, Inc.
26361 Crown Valley Parkway, Ste. 150
Mission Viejo, CA 92691

Re: Aeolus Pharmaceuticals, Inc.
Form 10-K/A for the Fiscal Year Ended September 30, 2010
Definitive Information Statement filed January 26, 2011
Form 8-K filed on February 16, 2011
Form 8-K filed on February 25, 2011
File No. 000-50481

Dear Mr. McManus:

We have reviewed your filings 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 filings, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe a comment applies to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response. Please furnish us a letter on EDGAR under the form type label CORRESP that keys your responses to our comments

After reviewing any amendment to your filings and the information you provide in response to these comments, we may have additional comments.

Form 10-K/A for the fiscal year ended September 30, 2010

Item 1. Business, page 4

Collaborative and License Arrangements, page 25

1. Please expand your disclosure regarding each of your license agreements with Duke and National Jewish Health to include the aggregate potential milestone payments payable under each agreement and a range of the royalty payments (e.g. low single-digits or a range not to exceed ten percent).

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, page 51

2. You disclose that on December 24, 2009, you entered into an amendment to the purchase agreement entered into in connection with the October 2009 Financing, pursuant to which you agreed to lower the conversion price of the Notes from \$0.35 per share to \$0.28 per share and as a result, issued to the October 2009 Investors an additional 714,286 shares of your common stock upon conversion of the Notes. Please
 - provide proposed disclosure for future filings that describes the misunderstanding between you and the affiliates of Xmark Opportunity Partners, LLC which appear to be the sole investors in this financing; and
 - confirm that you will incorporate the amendment by reference in your future filings.

Consolidated Financial Statements

Report of Independent Registered Public Accounting Firm, page 57

3. The audit report in the amended Form 10-K appears to be the same audit report as the one issued on the original financial statements included in the Form 10-K filed December 29, 2010. Please have your independent auditors reissue their audit report to include an explanatory paragraph to note that the financial statements have been restated. Please refer to Auditing Standard 6 issued by the PCAOB that superseded AU section 420.

General

4. Consistent with your explanatory note, please revise the filing to address the following:
 - Revise the financial statements and other financial data contained in the amendment to clearly label the periods which have been restated; and,
 - Revise the notes to consolidated financial statements to include disclosures required by ASC 250-10-50-7 through 9.

Notes to the Consolidated Financial Statements, page 62

Note G. Stockholders' Equity (Deficit), page 67

5. We note that the August 2008, March 2009 and October 2009 warrants all have adjustable features related to the respective exercise prices. Please explain to us why you use the Black-Scholes option pricing model, instead of a binomial or lattice pricing model to value your warrants. It appears that binomial or lattice models are better suited to handle the potential changes to your warrant exercise price.
6. Please refer to your disclosure regarding the October 2009 Put Option exercised in July 2010 and the August 2010 Financing. Revise to disclose the fair value and your accounting of the warrants issued in each as well as the Additional Warrants issued in December 2010 as disclosed in your Form 10-Q for the quarterly period ended December 31, 2010. In addition, reconcile for us the amount disclosed in the consolidated statements of cash flows for "proceeds from issuance of common stock and warrants"

totaling \$4.3 million in fiscal 2010 with the amount disclosed in the consolidated statements of stockholders' equity (deficit) the line item "common stock sales, net..." for \$1.677 million.

7. In addition please provide us with a rollforward schedule of the warrant liability by quarter from October 1, 2009 to December 31, 2010

Item 9A Controls and procedures, page 77

8. Please revise your disclosures to explain each material weakness including those associated with restating your financial statements, how the material weakness impacted your operations, including your financial statements, and management's proposed resolution for the material weakness. We note that "management has established mitigating controls..." Please disclose the nature of the mitigating controls established and discuss any anticipated changes to disclosure controls and procedures and/or internal controls over financial reporting to prevent future misstatements of a similar nature.

Definitive Information Statement filed January 26, 2011

Information Regarding Directors, page 6

9. Please provide proposed disclosure for your 2012 proxy or information statement to include for each director and nominee his or her experiences, qualifications, attributes or skills that cause the board to determine that the person should serve as a director of the company. See Item 401(e) of Regulation S-K.

Form 8-K filed on February 16, 2011

Form 8-K filed on February 25, 2011

10. In these Form 8-Ks, you disclose that you entered into the following agreements:
- Cost plus, fixed fee development agreement with the Office of the Biomedical Advanced Research and Development Authority, part of the National Institutes of Health, entered into on February 11, 2011;
 - Research and Manufacturing Agreement with Johnson Matthey Pharmaceutical Materials, Inc. entered into on February 18, 2011; and
 - General Management Consulting Assignment with Booz Allen Hamilton Inc. entered into on February 23, 2011.

Please confirm that you will file copies of each of these agreements with your Form 10-Q for the quarter ended March 31, 2011.

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;
- 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.

You may contact Christine Allen, Staff Accountant, at (202) 551-3652 or Donald Abbott, Senior Staff Accountant, at (202) 551-3608 if you have questions regarding the processing of your response as well as any questions regarding comments on the financial statements and related matters. Please contact Karen Ubell, Staff Attorney at (202) 551-3873 or Jennifer Riegel, Senior Staff Attorney at (202) 551-3575 with questions on any of the other comments. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg
Senior Assistant Chief
Accountant