

Via Facsimile and U.S. Mail  
Mail Stop 6010

December 17, 2007

Mr. John A. McCarthy, Jr.  
Executive Vice President and Chief Financial Officer  
Verenium Corporation  
55 Cambridge Parkway  
Cambridge, Massachusetts 02142

Re: **Verenium Corporation**  
**Form 10-K for Fiscal Year Ended December 31, 2006**  
**Form 10-Q for the Quarterly Period Ended September 30, 2007**  
**File No. 0-29173**

Dear Mr. McCarthy:

We have limited our review of your filings to those issues we have addressed in our comments. In our comments, we ask you to provide us with information to better understand your disclosure. Where a comment requests you to revise disclosure, the information you provide should show us what the revised disclosure will look like and identify the annual or quarterly filing, as applicable, in which you intend to first include it. If you do not believe that revised disclosure is necessary, explain the reason in your response. After reviewing the information provided, we may raise additional comments and/or request that you amend your filing.

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 on 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 the year ended December 31, 2006**

Item 1: Business

Current Alliances and Other Agreements, page 19

1. You disclose that your strategic partners have provided you with more than \$275 million in funding since inception and are committed to additional funding of more than \$20 million through 2010. Please file as exhibits the underlying contracts and other associated documents that relate to this financing arrangement

as required by Item 601 (b)(10) of Regulation S-K. If these documents were filed previously, please incorporate them by reference. Alternatively, if applicable, please provide us with an analysis supporting your determination that you are not substantially dependent on each of these agreements and that they are not required to be filed as exhibits.

Manufacturing Strategy, page 25

2. You disclose that you entered into a manufacturing agreement with Fermic in 2002, which was modified in 2006, and that the agreement requires commitments to Fermic of approximately \$24.7 million over the next three years. Please file as exhibits the underlying contract and other associated documents that relate to this agreement as required by Item 601 (b)(10) of Regulation S-K. If these documents were filed previously, please incorporate them by reference. Alternatively, if applicable, please provide us with an analysis supporting your determination that you are not substantially dependent on this agreement and that it is not required to be filed as an exhibit.

Financial Statements

Consolidated Statements of Operations, page 72

3. Please disclose the cost of product-related revenues from related parties similar to the way you disclosed revenues from related parties. Please refer to Rule 4.08(k) of Regulation S-X.

Note 1 – Organization and Summary of Significant Accounting Policies

Revenue Recognition, page 78

4. You disclose that you recognize product-related profit-sharing revenues during the quarter in which this revenue is earned based on estimates provided by your profit-sharing partner. Please tell us the nature of the estimates provided by your profit-sharing partner and the revenue recognition criteria you have applied to such arrangements.

Note 8: Concentration of Business Risk, page 94

5. You disclose that two customers individually comprised 46% and 18%, respectively, of your total revenue on December 31, 2006. Please identify these customers in accordance with Item 101 (c)(1)(viii) of Regulation S-K.

**Form 10-Q for the Quarterly Period Ended September 30, 2007**

Notes to Condensed Consolidated Financial Statements

Note 7 – Merger Transaction, page 9

6. You disclose that the acquisition of Celunol will produce significant benefits. Given that Celunol had no operations and a stockholders' deficit as of March 31, 2007, please increase your disclosure and quantify, if possible, as to the factors that contributed to a purchase price which results in the recognition of \$106 million in goodwill in accordance with paragraph 51(b) of SFAS 141.

\* \* \* \*

Please respond to this comment within 10 business days or tell us when you will provide us with a response. Detailed 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 include 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.

Please contact Gus Rodriguez, Staff Accountant at (202) 551-3752, or Joel Parker, Branch Chief, at (202) 551-3651 if you have questions regarding the processing of your response as well as any questions regarding comments on the financial statements

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and related matters. You may contact Rose Zukin, Staff Attorney, at (202) 551-3239 or Michael Reedich, Staff Attorney, at (202) 551-3612 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