

Mail Stop 3561

July 27, 2007

Mr. Barry W. Weiner
President, Chief Financial Officer and Director
Enzo Biochem, Inc.
527 Madison Avenue
New York, New York 10022

Re: Enzo Biochem, Inc.
Form 10-K for Fiscal Year Ended July 31, 2006
Filed October 13, 2006
Form 10-Q for Fiscal Quarter Ended October 31, 2006
Filed December 11, 2006
Form 10-Q for Fiscal Quarter Ended January 31, 2007
Filed March 12, 2007
Form 10-Q for Fiscal Quarter Ended April 30, 2007
Filed June 11, 2007
File No. 0-29100

Dear Mr. Weiner:

We have reviewed your filings 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 the filing in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with supplemental information so we may better understand your disclosure. After reviewing this information, we may or may not 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 filings. 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 me at the telephone number listed at the end of this letter.

July 31, 2006 10-K

Critical Accounting Policies, page 43

1. We note your disclosures regarding contractual adjustments. Please expand your disclosure to discuss the factors underlying the changes in the contractual adjustment percentages for each period, and to describe any known trends or uncertainties that you expect to have a material favorable or unfavorable impact on net revenues or income from continuing operations in accordance with Item 303(a)(3)(ii) of Regulation S-X. We note that the percentage of contractual adjustments has increased during each of the past three fiscal years, from 68.0% to 75.2%, and has increased further to 78.4% during the nine months ended April 30, 2007.
2. Please tell us whether you are able to track contractual adjustments recorded during the current period that relate to revenue recorded in previous periods. If so, please revise your disclosure to quantify the effect of contractual adjustments recorded in each period that relate to revenue recorded in previous periods. For example, disclose the impact on net income during fiscal 2006 for adjustments relating to revenue that was recorded in each year prior to fiscal 2006. If you are unable to track these types of adjustments, please revise your disclosure to state that you are unable to quantify such amounts, and explain why you believe that you are able to reasonably estimate contractual adjustments relating to revenue.
3. We note your disclosure that receivables over 210 days were written off during the years ended July 31, 2006 and 2005. Please expand your disclosure to include your accounts receivable balances by aging category for each payor type at each balance sheet date, so that investors will be better able to evaluate the potential exposure to writeoffs.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures, page 47

4. We note your statement that “effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives.” Given this qualification, the disclosure should be revised to state clearly, if true, that your disclosure controls and procedures are *designed to* provide reasonable assurance of achieving their objectives and that your principal executive officer and principal financial officer concluded that your disclosure controls and procedures are effective at that reasonable assurance level. Alternatively, the reference to the level of assurance of your disclosure controls and procedures

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should be removed. Please make the appropriate revisions in any amended filing or confirm that you will do so in future filings.

Notes to Consolidated Financial Statements

Note 10 – Gain on Patent Litigation Settlement, License Agreement and Royalty Income, page F-22

5. We note your disclosures regarding the \$14 million gain on patent litigation settlement recorded during the year ended July 31, 2005. We also note that the license agreement with Digene Corporation provides for a non-refundable upfront payment of \$16 million, guaranteed annual payments for fiscal years 2005 through 2009, and royalty payments based on milestones. Please tell us how you determined that it was appropriate to recognize the \$14 million gain with respect to the non-refundable payment, including the specific accounting literature on which your conclusion was based. We may have additional comments after reviewing your response.

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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 file your letter on EDGAR under the form type label CORRESP. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

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 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 writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;

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- 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 Angela Halac, Staff Accountant at (202) 551-3398 or Carlton Tartar, Assistant Chief Accountant at (202) 551-3558 if you have any questions.

Sincerely,

Tia Jenkins
Senior Assistant Chief Accountant
Office of Emerging Growth
Companies