



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 6010

October 5, 2007

VIA U.S. MAIL and FACSIMILE

Timothy W. Baker
Cynosure, Inc.
Chief Financial Officer
5 Carlisle Road
Westford, MA 01886

RE: Cynosure, Inc.
Form 10-K for the fiscal year ended December 31, 2006
Filed March 12, 2007
Form 10-Q for the quarterly period ended June 30, 2007
File No. 000-51623

Dear Mr. Baker:

We have reviewed your response dated September 11, 2007 and related filings and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a 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 information so we may better understand your disclosure. After reviewing this information, we may 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 filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-Q for the quarterly period ended June 30, 2007

Consolidated Financial Statements

Note 12. Income Taxes, page 9

1. Please refer to prior comment one in our letter dated August 28, 2007. With regards to your analysis under SAB 99 and SAB 108 for the correction of an error related to the 2003 tax return, please address the following comments:
 - We see from your analysis that under the “rollover method,” the impact of the error on fiscal years 2004 and 2005 was 6% and 8% of net income, respectively. Using the “iron curtain method”, the impact is 6%, 16% and 106% to fiscal years 2004, 2005 and 2006, respectively. The impact of the error also appears to be significant to EPS in all periods presented in the analysis. In addition, we see that net income and EPS is highlighted in the press releases to announce your financial results. Please explain in greater detail why you believe the net loss misstatement is not quantitatively material enough to require a restatement to prior financial statements.
 - Please tell us your consideration of the errors on the individual quarterly periods within 2005.
 - In your analysis of the “iron curtain method” for the year ending December 31, 2006, please reconcile the basic and diluted EPS of \$.10 and \$0.08 per share with the EPS reported in the Form 10-K for the year ending December 31, 2006 of \$0.06 per share.

In addressing our comments, we refer you to Todd E. Hardiman’s Remarks Before the 2006 AICPA National Conference on Current SEC and PCAOB Developments which can be found on our website at:

<http://www.sec.gov/news/speech/2006/spch121206teh.htm>

As appropriate, please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a cover letter with your response that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your responses to our comments.

Mr. Baker
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You may contact Kristin Lochhead at (202) 551-3664 or me at (202) 551-3676 if you have questions. In this regard, please do not hesitate to contact Martin James, Senior Assistant Chief Accountant, at (202) 551-3671 with any other questions.

Sincerely,

Brian Cascio
Accounting Branch Chief