



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3030

March 16, 2009

VIA U.S. MAIL AND FAX (781) 246-1167

Mr. Glenn D. Bolduc
Vice President and Chief Financial Officer
Implant Sciences Corporation
107 Audubon Road
Wakefield, Massachusetts 01880

Re: Implant Sciences Corporation
Form 10-K for the year ended June 30, 2008
Filed October 14, 2008
Form 10-Q for the quarter ended September 30, 2008
File No. 000-25839

Dear Mr. Bolduc:

We have reviewed your response dated March 9, 2009 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 your documents 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-K for the year ended June 30, 2008

Item 9A. Controls and Procedures, page 29

1. Please refer to prior comment 1. We note that you have not completed your assessment of internal control over financial reporting as of June 30, 2008. Since you were required to file or filed an annual report for the prior fiscal year, you are required to report on your management's assessment of internal control over financial reporting.

If your management has not yet completed its assessment, we ask that you complete your evaluation and amend your filing to provide the required management's report on internal control over financial reporting.

In completing your evaluation, you may find the following documents helpful:

- the Commission's release *Amendments to Rules Regarding Management's Report on Internal Control Over Financial Reporting* (Securities Act Release 8809/Financial Reporting Release 76). You can find this release at:
<http://www.sec.gov/rules/final/2007/33-8809.pdf>;
- the Commission's release *Commission Guidance Regarding Management's Report on Internal Control Over Financial Reporting Under Section 13(a) or 15(d) of the Securities Exchange Act of 1934* (Securities Act Release 8010/Financial Reporting Release 77). You can find this release at
<http://sec.gov/rules/interp/2007/33-8810.pdf>; and
- the "Sarbanes-Oxley Section 404 – A Guide for Small Business" brochure at:
(<http://www.sec.gov/info/smallbus/404guide.shtml>).

In addition, please consider whether management's failure to perform or complete its report on internal control over financial reporting impacts its conclusions regarding the effectiveness of your disclosure controls and procedures *as of the end of the fiscal year* covered by the report and revise your disclosure as appropriate.

Please note that the failure to complete management's assessment adversely affects the company's and its shareholders ability to avail themselves of rules and forms that are predicated on the current or timely filing of Exchange Act reports. For further information regarding these impacts, please see Compliance and Disclosure Interpretation 115.02, which you can find at <http://www.sec.gov/divisions/corpfin/guidance/regs-kinterp.htm>.

Form 10-Q for the period ended December 31, 2008

Financial Statements, page 3

Note 11. Long-Term Debt and Credit Arrangements, page 12

Senior Secured Convertible Promissory Note, page 13

2. We note that you transferred your entire interest in 1,500,000 shares of the common stock of CorNova, a privately-held, development stage medical device company, to DMRJ Group in lieu of paying any commitment or closing fees. We also note that you determined the fair value of the CorNova common stock based on an estimate “of a market-equivalent fee, factoring in the Company’s liquidity and financial condition on the date of the note issuance.” Please tell us more about how you determined the fair value of the CorNova shares as well as how you calculated the gain on the transfer of the shares to DMRJ. Additionally please explain and support the entries that you recorded in connection with the transaction. Cite the guidance upon which you based your accounting.

Note 19. Discontinued Operations, page 18

3. We note that you sold the assets of your Core System to Core Systems Incorporated, a newly formed entity owned by your subsidiaries general manager for \$3 million plus the assumption of certain liabilities. Please address the following:
 - Tell us the related party relationship between the company, C Acquisition Corp (your subsidiary), Laurus and Core Systems Incorporated. Discuss if the general manager still works for your subsidiary and if the “other investors” are common owners.
 - We note the buyer made cash down payments totaling \$1,375,000, issued a promissory note for the remaining \$1,625,000 and granted a security interest in all of their assets to secure their obligation under the promissory note. We also note that the buyer is now in default on the promissory note. Tell us whether or not the collection of the remaining note is reasonably assured. Explain if payment under the promissory note is dependent on the future successful operations of the business. Specifically discuss if you will take back the assets if the buyer is unable to pay the remaining obligation.
 - Tell us how you concluded that the \$250,000 payment in default is appropriately recorded as a current asset in your balance sheet.
 - Explain any continuing involvement by the company in the business of Core Systems. For example, explain if you share major customers or contracts, have common board members; voting interest or are involved in the continuing operations of this entity.

- Please tell us your consideration of SAB Topic 5.E, specifically your consideration that the risks of the business have not, in substance been transferred to the buyer.
4. In this regard, we note that you treated the sale as discontinued operations under SFAS 144. Please explain why you believe that the component qualifies for discontinued operations reporting under paragraph 42 of SFAS 144. Note that any significant continuing involvement in the operations of the component after the disposal transaction would preclude discontinued operations reporting. Refer to the guidance in paragraph 42 of SFAS 144 and EITF 03-13 in your response.

Form 8-K filed December 1, 2008

5. We note that you have provided a pro forma income statement for the year ended June 30, 2008 and the interim period ended September 30, 2008. Please address the following:
- Tell us why the consolidated actual amounts for the year ended June 30, 2008 are labeled as “unaudited”.
 - Explain why there are no revenues or expenses related to Core Systems. Reconcile the pro forma presentation to the condensed results of operations for Core Systems that is presented in your Form 10-Q for the period ended December 31, 2008 on page 18.
 - Since the disposition had occurred but had not yet been reflected in your historical statements as a discontinued operation, it appears that pro forma income statements are required for the most recent two years and comparative interim period. Please explain why your presentation only includes one year and interim period.

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 amendments 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 understand that we may have additional comments after reviewing your amendments responses to our comments.

You may contact Julie Sherman, Staff Accountant, at (202) 551-3640 or me at (202) 551-3554 if you have any questions regarding these comments. In this regard, do not hesitate to contact Martin James, Senior Assistant Chief Accountant, at (202) 551-3671.

Sincerely,

Angela Crane
Accounting Branch Chief