



DIVISION OF
CORPORATION FINANCE

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

September 9, 2010

Douglas C. MacLellan
President and Chief Executive Officer
Radiant Pharmaceuticals Corporation
2492 Walnut Avenue, Suite 100
Tustin, CA 92780-7039

Re: Radiant Pharmaceuticals Corporation
Amendment No. 5 to Schedule 14A Filed August 31, 2010
Form 10-K/A for the Year Ended December 31, 2009 Filed May 3, 2010
Form 10-Q for the Quarter Ended June 30, 2010 Filed August 17, 2010
File No. 001-16695

Dear Mr. MacLellan:

We have reviewed your response letter filed August 31, 2010 and the above-referenced filings and have the following comments. In 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 our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

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

Amendment No. 5 to Schedule 14A Filed August 31, 2010
Table of Contents, page 4

1. Rule 14a-4(a)(3) requires that the form of proxy "identify clearly and impartially each separate matter intended to be acted upon, whether or not related to or conditioned on the approval of other matters." You have "bundled" the two proposals in proposal five. One proposal relates to the approval and ratification of the issuance of warrants to purchase up to 10,932,199 shares of common stock and a reduction in exercise of 1,644,643 previously issued warrants. The second proposal relates to the right to issue additional shares of common stock as may be required pursuant to the anti-dilution terms of such warrants in the future if such an adjustment is required. Each proposal should be separately identified, discussed and voted on in the proxy statement.

Proposal 5, page 20

2. Please expand your disclosure regarding your proposal that seeks shareholder approval of the issuance of potential future anti-dilution shares to provide three illustrative examples of the number of additional shares you will issue if there is an adjustment to three different stock prices that are significantly lower than \$0.28 per share.
3. Please expand your disclosure regarding your proposal that seeks shareholder approval of the issuance of potential future anti-dilution shares to disclose whether the structure of this proposal is sufficient to comply with the NYSE Amex shareholder approval requirements, including Rule 713 of the NYSE Amex Company Guide regarding the issuance of more than 19.99% of your outstanding shares below your book value or market value.

Form 10-K/A for the Year Ended December 31, 2009 Filed May 3, 2010

4. Please amend your filing to include all the previously discussed changes.

Form 10-Q for the Quarter Ended June 30, 2010 Filed August 17, 2010

Item 1. Financial Statements

Note 6 – Debt, page 15

5. Refer to your response to our comments two and three. The volatility assumptions appear low considering the stock prices over the last year. Please refer by analogy to the guidance in Staff Accounting Bulletin Topic 14:D:1 when determining your volatility assumptions and explain to us why your assumptions are appropriate. It is unclear why relying on historical prices over only the most recent twelve months is appropriate. Refer to Question 4 of Staff Accounting Bulletin Topic 14:D:1. Further, please clarify why the volatility of 22.0% – 36.6 % under the binomial pricing method is substantially different from the expected volatility used under the Black Scholes method of 122% - 234% as previously disclosed and throughout your filings and why it does not appear to be reflective of historical stock trades over the last year. If you continue to believe that your volatility assumptions are appropriate, please clarify what the material events in your history were that you believe to be non-recurring and why you believe similar events or other events which would cause sufficient volatility will not occur. Please revise your disclosures for the above comments under the sections Derivative Financial Instruments and Fair Value Measurements in Note 2 as necessary. Finally, with respect to any changes to the financial statements, please provide us with your proposed disclosure related to any restatement you intend to make.
6. Refer to your response to our comment four. Please revise your disclosure to clarify that the additional principal amount has non-standard anti-dilution clauses (down-round

provisions) and thus the additional amount is considered a derivative. Also, please clarify in the filing if there are any additional triggering events in the convertible debt, including the terms of those events, which may require you to record a liability in the future.

Item 2. Management's Discussion and Analysis of Financial Condition & Results of Operation
Critical Accounting Estimates
Impairment of Long-Lived Assets, page 32

7. We have reviewed your response to our comment number five and have the following comments:
- a. Please clarify how you determined that the growth in sales would be 150% in 2011, and 20% in 2012 and 2013, particularly given your disclosure appears to indicate that revenue forecasts had declined. We note you were previously estimating an average growth of 12.5% across the periods.
 - b. If you continue to believe that expected revenue increases are greater than you previously forecasted, please clarify why you believe an impairment occurred.
 - c. Provide further support for the expected increase in the sales of cancer centric products, namely JPI's Domperidone tablets and clarify how you determined the period the revenues attributable to these products will be realized.

Results of Operations

Six Months Ended June 30, 2010, page 33

8. Refer to your response to comment six. Please provide us your proposed revisions to Note 6 to your financial statements as well as your Statements of Income and Cash Flows since many of the numbers have changed as a result of the comments above and do not agree to the proposed revised disclosure relating to our comment six.

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.

Douglas C. MacLellan
Radiant Pharmaceuticals Corporation
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You may contact Tabatha Akins at (202) 551-3658 or Mary Mast at (202) 551-3613 if you have questions regarding comments on the financial statements and related matters. Please contact Jennifer Riegel at (202) 551-3575 or me at (202) 551-3715 with any other questions.

Sincerely,

Jeffrey Riedler
Assistant Director

cc: Rachel Schmierer
Leser, Hunter, Taubman & Taubman
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New York, New York 10004