



Committed to Quality for Life

March 18, 2010

VIA EDGAR

Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549

**Re: Comment Letter, dated February 18, 2010 related to
Form 20-F for fiscal year ended May 31, 2009
File No. 001-32001**

Dear Sirs/Mesdames:

Pursuant to the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, we enclose our responses to the Staff's letter of comments, dated February 18, 2010 (the "Comment Letter"), with respect to Lorus Therapeutics Inc.'s (the "Company") Form 20-F for the fiscal year ended May 31, 2009 originally filed on November 30, 2009 ("Form 20-F"). Responses are keyed to the headings and comment numbers contained in the Comment Letter.

Comment 1

Item 18. Financial Statements

1. Basis of Presentation

(b) Reorganization, page F-8

- 1. Please tell us why the continuity of interest method is appropriate for U.S. GAAP given that \$8.5 million of cash was exchanged in the transaction. Also please tell us why it was appropriate under U.S. GAAP to record a \$6.3 million gain in the reorganization. Refer also to your disclosure in "Gain on sale of shares" and "Plan of Arrangement and corporate reorganization on pages 45 and 46.**

Our response to the above question is provided in Appendix 1 to this letter.

In reference to the comments provided by the Commission, the Company acknowledges that:

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

Please contact Mark Preston, Acting Controller, or the undersigned if you have any questions about the contents of this letter.

Yours truly,

/s/ Aiping Young

Aiping Young
President & CEO

Enclosure

cc: Elizabeth Williams, Lorus Therapeutics Inc.
Daniel M. Miller, Dorsey & Whitney LLP
Anin Basu, KPMG LLP

APPENDIX 1

The purpose of the Arrangement completed by the Company in July 2007 was to transfer certain income tax attributes the Company had to an unrelated third party for cash proceeds of \$8.5 million. This transaction was achieved in two key steps: (A) Internal reorganization, resulting in the formation of New Lorus (as described below), which became the parent company carrying on the business previously carried on by Old Lorus (as described below), and (B) sale of the shares of Old Lorus to an unrelated third party in an arm's length transaction.

A: Internal reorganization resulting in the formation of New Lorus and continuation of the business and operations of Old Lorus

On July 10, 2007 (the "Arrangement Date"), the Company (or "New Lorus") and Old Lorus (Lorus Therapeutics Inc. prior to the Arrangement Date) completed a plan of arrangement. As part of the Arrangement, all of the assets and liabilities of Old Lorus (including all of the shares of its subsidiaries held by it), with the exception of certain future tax assets were transferred, from Old Lorus to New Lorus. Security holders in Old Lorus, which included shareholders, option holders, and the holder of the secured convertible debentures, exchanged their securities in Old Lorus for identical securities in New Lorus. New Lorus at that time obtained substitutional listings of its common shares on both the Toronto Stock Exchange and the American Stock Exchange. As a result of these steps, Old Lorus became a wholly owned subsidiary of New Lorus, and all of the shares of New Lorus were held by the former shareholders of Old Lorus in the same numbers and proportions as they had held shares of Old Lorus.

As part of the Arrangement, New Lorus changed its name to Lorus Therapeutics Inc. and continued as a biopharmaceutical company, specializing in the research and development of pharmaceutical products and technologies for the management of cancer as a continuation of the business of Old Lorus.

New Lorus believes that continuity of interest or "carryover basis" accounting is appropriate based on the following:

1. The transaction of transferring substantially all of the assets and liabilities of Old Lorus to New Lorus was between two companies under common control of the same shareholders.
2. As a result of the Arrangement, there was no ultimate change in ownership of New Lorus before and after the Arrangement Date. All shareholders of Old Lorus continued as shareholders of New Lorus in the same ownership percentages. All holders of options exchangeable into shares of Old Lorus were issued the options with the same terms exchangeable into the same number of New Lorus shares
3. The management team of Old Lorus continued as the management of New Lorus and the Board of Directors immediately preceding the Arrangement Date continued as the Board of directors of New Lorus.
4. The Company continued to be listed, through a substitutional listing, on the Toronto Stock Exchange and the American Stock Exchange, with no change in the rights of entitlement of any of those shareholders who held shares in Old Lorus at the time of the exchange into shares of New Lorus.

In accordance with paragraph D 12 of SFAS 141, "Business Combinations", when accounting for a transfer of assets or exchange of shares between entities under common control, the entity that receives the net assets or the equity interests shall initially recognize the assets and liabilities transferred at their carrying amounts in the accounts of the transferring entity at the date of transfer. The procedural guidance in paragraphs D 15 through D 17 also provide guidance that the financial statements of the entity receiving the net assets (New Lorus) should report the operations for the period in which the transaction occurs as though the transfer of net assets had occurred at the beginning of the period.

Therefore, as the business, management and operations of New Lorus was fundamentally unchanged and the rights and entitlement of the shareholders and holder of the secured convertible debentures at the time were unchanged, New Lorus believes that the accounting for the financial statements of New Lorus on a continuity of interest or on a carryover basis was appropriate as it results in the most accurate depiction of the substance of the transaction for shareholders and other users of the financial statements of New Lorus.

B: Sale of shares of Old Lorus by New Lorus to an unrelated third party for cash proceeds of \$8.5 million

Under the steps of the Arrangement, the following transactions occurred that specifically related to the sale of shares of Old Lorus:

1. At November 1, 2006, the Old Lorus established a wholly owned subsidiary, 6650309 Canada Inc. (New Lorus);
2. At the Arrangement Date, Old Lorus was reorganized and the shareholders of Old Lorus exchanged their shares of Old Lorus for shares of New Lorus and shares of the reorganized Old Lorus (which was now a shell company, with only certain future tax assets that had a full valuation allowance).
3. New Lorus then sold all of its shares in Old Lorus to a third party in exchange for gross proceeds of \$8.5 million in an arm's length transaction. Following the sale transaction, Old Lorus and New Lorus were not related or affiliated, and New Lorus had no further continuing interest in Old Lorus.

Therefore, on the sale of shares of Old Lorus by New Lorus to the third party, the Company recognized a gain of \$6.3 million representing gross proceeds of \$8.5 million, less costs of the transactions (\$1.6 million) and an amount held in escrow (\$0.6 million released in July 2008) aggregating to approximately \$2.2 million. As this transaction was between the Company and a third party for an agreed upon amount of cash, resulting in the disposition of the shares of the subsidiary (Old Lorus) which had certain income tax attributes, the gain arising from this transaction was recorded as a non-operating income, in a separate line in the statement of operations of New Lorus in the year ended May 31, 2008.