



DIVISION OF
CORPORATION FINANCE

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

November 17, 2010

Kenneth B. Stratton
General Counsel
StemCells, Inc.
3155 Porter Drive
Palo Alto, CA 94304

**Re: StemCells, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2009
Definitive Proxy Statement filed April 13, 2010
File No. 000-19871**

Dear Mr. Stratton:

We have reviewed your September 28, 2010 response to our September 15, 2010 letter and have the following comment.

Please respond to this letter within ten business days by providing the requested information. If you do not believe our comment applies to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to this comment, we may have additional comments.

Definitive Proxy Statement filed April 13, 2010

Executive Compensation, page 11

Bonus Compensation, page 14

1. We note your response to prior comment 5 and reissue our comment. A detailed description of the specific corporate goals, though subjective and not linearly tied to the compensation committee's bonus determination, is material to understanding how you incentivize and reward your executive officers. Such detailed description has not been provided by your previous response on July 6, 2010. Please confirm that you will provide a detailed description of the specific corporate goals approved by the board for 2010 corporate performance in your 2011 proxy statement. To the extent that you goals are quantified, confirm that the description of your goals in your proxy statement will also be quantified.

Kenneth B. Stratton
StemCells, Inc.
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You may contact Karen Ubell, Staff Attorney, at (202) 551-3873, Suzanne Hayes, Legal Branch Chief, at (202) 551-3675 or me at (202) 551-3715 with any questions.

Sincerely,

Jeffrey Riedler
Assistant Director