



DIVISION OF
CORPORATION FINANCE

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

December 30, 2010

Mr. James W. Sullivan
Chief Financial Officer
Mosys, Inc.
755 North Mathilda Avenue
Suite 100
Sunnyvale, California 94085

Re: Mosys, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2009
Filed March 26, 2010
File No. 000-32929

Dear Mr. Sullivan:

We have reviewed your filings and have the following comments. In some of 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 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, please tell us why in your response.

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

Form 10-K for the year ended December 31, 2009

Financial Statements, page 49

Note 1: The Company and Summary of Significant Accounting Policies, page 55

Revenue Recognition, page 58

1. We note your disclosure that for license agreements that do not require significant development, modification, or customization, revenues are generally recognized when the revenue recognition criteria have been met. Please revise future filings to clearly explain when in the sales process you have met the recognition criteria and recognized the related revenues. Please provide us with your proposed future disclosure. Also, tell us why you use the word “generally” in the aforementioned disclosure. If you recognize revenue other than when the revenue recognition criteria have been met, please describe those circumstances and your rationale for using such an accounting policy.
2. We see that you provide unspecified upgrades under certain agreements. Please explain the nature of the upgrades, the related agreements and how you account for the upgrades offered.

Note 4: Revision of Prior Period Financial Statements, page 66

3. We see that you identified a calculation error in your determination of stock based compensation expense that led to an understatement of previously reported non-cash stock based compensation expense for 2008, 2007 and 2006 and the quarters within those years and also changed the timing of stock based compensation expense. We also see that you determined that this error was determined to be immaterial to those previously reported financial results, but you retroactively corrected those related financial statements. It appears from your table, however, that your adjustments may be quantitatively material to certain line items in certain periods. Please tell us how management concluded these adjustments were not material to each related period and provide us with your complete SAB 99 and SAB 108 analysis.

Form 10-Q for the Quarterly Period Ended September 30, 2010

Note 1. The Company and Summary of Significant Accounting Policies, page 6

Goodwill, page 8

4. We note from your disclosure that you review goodwill for impairment annually in the third quarter. Please tell us the outcome of your goodwill impairment test as of

September 30, 2010. From your disclosure on page 34 in your Form 10-K for December 31, 2009 we note where you state that “the fair value of each reporting unit is determined using the market approach,” which appears to imply that you used more than one reporting unit for your annual impairment test in your fiscal year ended December 31, 2009. However, on page 8 in your Form 10-Q for the quarterly period ended September 30, 2010 you state that “[you] estimate the fair value based on the market value of the reporting unit at the entity level,” which appears to imply that you used one reporting unit as of September 30, 2010. In this regard, please identify each reporting unit used in your goodwill impairment test for the fiscal year ended in 2009 and 2010. Please explain to us how you determined the number of reporting units used in your goodwill impairment test in each of the fiscal years ended in 2009, and 2010, explaining your rationale for the differences between both years. Clearly tell us how you have defined your reporting units for 2009 and 2010, including your reasons as to why discrete financial information is not available at a lower level than the entity level.

5. In this regard, we note from page 34 in your Form 10-K for December 31, 2009, that goodwill impairment is one of your critical accounting policies, and that if your stock price continues to experience significant price and volume fluctuations, this will impact the fair value of the reporting unit, which can lead to potential impairment in the future periods. Considering the uncertainty in this accounting estimate, for each reporting unit that is at risk of failing step one of the goodwill impairment test as defined in ASC Topic 350, please provide us with and disclose in your future filings:
- The percentage by which fair value exceeded carrying value as of the date of the most recent test;
 - The amount of goodwill allocated to the reporting unit;
 - A description of the methods and key assumptions used and how the key assumptions were determined;
 - A discussion of the degree of uncertainty associated with the key assumptions. The discussion regarding uncertainty should provide specifics to the extent possible (e.g., the valuation model assumes recovery from a business downturn within a defined period of time); and
 - A description of potential events and/or changes in circumstances that could reasonably be expected to negatively affect the key assumptions.

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 all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. 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.

Mr. James W. Sullivan
Mosys, Inc.
December 30, 2010
Page 4

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging 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.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

You may contact Julie Sherman at (202) 551-3640 or me at (202) 551-3212 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,

Jeff Jaramillo
Branch Chief