



DIVISION OF
CORPORATION FINANCE

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

July 27, 2010

Via U.S. Mail and Fax (949) 756-2602

Mr. John W. Hohener
Vice President, Chief Financial Officer
Microsemi Corporation
2381 Morse Avenue
Irvine, California 92614

**Re: Microsemi Corporation
Form 10-K for the Fiscal Year Ended September 27, 2009
Filed November 24, 2009
File No. 000-08866**

Dear Mr. Hohener:

We have reviewed your response dated July 22, 2010 and have the following comment. In our comment, 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 filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comment applies 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 filing and the information you provide in response to this comment, we may have additional comments.

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1. We note your response to prior comment 2 and your proposed revised disclosure. Please revise your proposed disclosure to ensure it addresses the following disclosure requirements:
 - Item 402(b)(1)(vi) of Regulation S-K regarding how each compensation element and the registrant's decisions regarding that element fit into the registrant's overall compensation objectives and affect decisions regarding other elements. For example, how did this compensation decision affect Mr. Peterson's other compensation? We note in your response letter dated May 20, 2010 you stated that:
 - these penalties were "not a factor in the decisions of the Compensation Committee in granting Mr. Peterson any other forms of compensation";

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- “ the Compensation Committee did not make any determination as to the [bonus] amount that might have been awarded to Mr. Peterson”; and
- “In making its decisions as to Mr. Peterson’s base salary and equity awards for fiscal 2009, the Compensation Committee did not take into account the penalties imposed under the January 2009 agreement.”

If true, please discuss the above points in your revised disclosure.

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.

In responding to our comments, please provide a written 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.

You may contact Julie Sherman at (202) 551-3640 or Jay Webb, Reviewing Accountant, at (202) 551-3603 if you have questions regarding comments on the financial statements and related matters. Please contact Allicia Lam at (202) 551-3316 or Jay Mumford, Senior Attorney, at (202) 551-3637 with any other questions.

Sincerely,

Jeffrey Jaramillo
Branch Chief

CC (by facsimile): Loren Weber – O’Melveny & Myers LLP