



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

DIVISION OF  
CORPORATION FINANCE

December 23, 2010

Thomas J. Meaney  
President  
Mikros Systems Corporation  
707 Alexander Road, Building Two  
Suite 208  
Princeton, New Jersey 08540

**Re: Mikros Systems Corporation  
Form 10-K for the Fiscal Year Ended December 31, 2009  
Filed March 31, 2010  
Form 10-Q for the Quarterly Period Ended September 30, 2010  
File No. 000-14801**

Dear Mr. Meaney:

We have reviewed your filings and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your documents. 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 Fiscal Year Ended December 31, 2009

Financial Statements

Note 5. Stock Options, page 53

1. In future filings please disclose the method used to determine your expected term, expected volatility and risk-free interest rate assumptions consistent with FASB ASC 718-10-50-2(f)(2).

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

Financial Statements

Note 5. Shareholders' Equity, page 8

2. Given the disclosure related to your convertible preferred stock, please tell us whether any of your convertible preferred stock is a participating security and how you applied the two class method in FASB ASC 260-10-45-59A through 45-70.

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 Dennis Hult, Staff Accountant, at (202) 551-3618 or Kate Tillan, Assistant Chief Accountant, at (202) 551-3604 if you have any questions. You may also contact me at (202) 551-3671 with any questions.

Sincerely,

/s/ Kate Tillan for

Martin James  
Senior Assistant Chief Accountant