

Mail Stop 6010

May 26, 2006

Via U.S. Mail and Facsimile (503) 601-1001

Mr. Steven Sipowicz
Chief Financial Officer
Cascade Microtech, Inc.
2430 N.W. 206th Avenue
Beaverton, Oregon 97006

**Re: Cascade Microtech, Inc.
Form 10-K for year ended December 31, 2005
Filed March 16, 2006
File No. 000-51072**

Dear Mr. Sipowicz:

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. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspects of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the fiscal year ended December 31, 2005

Management Discussion and Analysis

Liquidity and Capital Resources, page 34

1. Please revise future filings to further disclose your specific plan of operations, including plans to develop your products and services, liquidity needs and expected sources of liquidity.
2. Please tell us and disclose in future filings the reason for the significant increase in days sales outstanding and how this impacts the collectibility of your accounts receivable.

Item 8. Financial Statements and Supplementary Data

Consolidated Statements of Operations, page F-3

3. Please revise the statements of operations in future filings to present expense for stock-based compensation in the same line or lines as cash compensation paid to the same employees in accordance with SAB Topic 14F.

Note 16. Segment Reporting, page F-22

4. We reference the discussion on page 27 that “the segment data previously collected was not useful for understanding our business and was not useful information on which to base operating decisions. Accordingly, beginning in the first quarter of 2005, the segment reporting financial statement footnote only presents revenue for each segment.” We also note the discussion in Note 16 that the Chief Operating Decision Maker determined that the additional information previously prepared was arbitrary and did not provide useful information upon which to base operating decisions. In addition, we note that you are not able to provide revenue by product line. Please tell us what level of financial information is available and prepared in your financial reporting process. Clarify whether there is any financial information available by segment other than revenue to external customers. If you have other financial information available by segment, please tell us how this information is used and how you comply with the disclosure requirements of SFAS 131. Furthermore, please tell us why it is impracticable to report your revenue by product line.

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As appropriate, please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a cover letter with your response that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your responses to our comments.

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.

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 Praveen Kartholy, Staff Accountant, at (202) 551-3778 or me at (202) 551-3676 if you have questions regarding these comments. In this regard, do not hesitate to contact Martin James, Senior Assistant Chief Accountant, at (202) 551-3671.

Sincerely,

Brian Cascio
Accounting Branch Chief