

Mail Stop 6010

February 2, 2006

Ms. Susan E. Knight, Chief Financial Officer and Vice President
MTS Systems Corporation
14000 Technology Drive
Eden Prairie, MN 55344

RE: MTS Systems Corporation
Form 10-K for the fiscal year ended October 1, 2005
Filed January 24, 2006
File No. 0-02382
Form 8-K filed January 27, 2006

Dear Ms. Knight:

We have reviewed your filing and have the following comments. We have limited our review of your filing to those issues we have addressed in our comments. Where indicated, we think you should revise your document in future filings 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 aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the period ending October 1, 2005

Item 7. Management's Discussion and Analysis, page 13

Restructuring and Other Charges, page 23

1. Please expand MD&A in future filings to make quantified disclosure about anticipated and actual cost savings derived from your restructuring efforts during the periods presented. Your disclosures should fully conform to the guidance set forth in the Question under "Disclosures" to SAB Topic 5-P. Refer to the next to last paragraph to the referenced Question.

Cash Flow Statement, page F-7

2. We note that you present net cash flows provided by discontinued

operations separately on the face of your cash flow statement. In future filings, please revise to present cash flows for discontinued operations in accordance with footnote 10 of SFAS 95. Accordingly, all cash flows must be reported as an operating, investing, or financing activity.

Notes to Financial Statements, page F-8

Note 3. Business Segment Information, page F-18

3. If revenues derived from any particular foreign country are material, revise future filings to disclose the name of the country and the amount of revenue from the country. Refer to paragraph 38(a) FAS 131.

Note 8. Restructuring and Other Charges, page F-25

4. In future filings, please expand the roll-forward to present exit cost liabilities pursuant to SFAS 146, paragraph 20. The roll-forward must present, by type of cost accrued (such as severance, contract termination, etc...), the beginning and ending balances of the liability, payments, and other changes in the liability, if any. Other changes must be thoroughly described. Note that disclosures must be retained until the exit plan is completed.

Form 8-K dated January 5, 2006

5. We note the non-GAAP information included in the press release furnished in the Form 8-K dated January 5, 2006. Your non-GAAP presentation does not appear consistent with our guidance and requirements on such presentation. Your presentation lacks substantive disclosure that addresses various disclosures in Question 8 of the FAQ. For example, the disclosure does not explain:

- * the substantive reasons why management believes the non-GAAP measure provides useful information to investors;
- * the specific manner in which management uses the non-GAAP measure to conduct or evaluate its business;
- * the economic substance behind management's decision to use the measure; and
- * the material limitations associated with the use of the non-GAAP measure as compared to the use of the most directly comparable GAAP measure, including the manner in which management compensates for these limitations when using the non-GAAP measure.

As each of the non-GAAP measures excludes an item that is recurring in nature you must meet the burden of demonstrating the usefulness of each measure and clearly disclose why each non-GAAP measure is useful when the item is excluded. See Question 8 of the June 13, 2003 FAQs. Confirm that you will revise your Forms 8-K in future periods and provide us with a sample of your proposed disclosure.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that they have provided all information investors 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 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 filings;
- * staff comments or changes to disclosure in response to staff comments in the filings reviewed by the staff 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.

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 file your cover letter on EDGAR. Please understand that we may have additional comments after reviewing your responses to our comments.

You may contact Dennis Hult, Staff Accountant, at (202) 551-3618 or me at (202) 551-3554 if you have questions regarding comments on the financial statements and related matters. In this regard, do not hesitate to contact James Martin, Senior Assistant Chief Accountant, at (202) 551-3671.

Sincerely,

Angela J. Crane
Accounting Branch Chief