



DIVISION OF
CORPORATION FINANCE

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

September 13, 2010

Michael Hoff
Director of Legal Services
MTS Systems Corporation
14000 Technology Drive
Eden Prairie, Minnesota 55344

**Re: MTS Systems Corporation
Form 10-K for the Fiscal Year Ended October 3, 2009
File No. 000-02382**

Dear Mr. Hoff:

We have completed our review of your filings and do not have any further comments at this time.

Sincerely,

Jeff Jaramillo
Accounting Branch Chief