



DIVISION OF
CORPORATION FINANCE

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

February 22, 2011

Ms. Elisha W. Finney
Chief Financial Officer
Varian Medical Systems, Inc.
3100 Hansen Way
Palo Alto, California

Re: Varian Medical Systems, Inc.
Form 10-K for the Fiscal Year Ended October 1, 2010
File No. 001-07598

Dear Ms. Finney:

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

Sincerely,

Kevin L. Vaughn
Accounting Branch Chief