



DIVISION OF
CORPORATION FINANCE

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

April 11, 2013

Via E-Mail

Ms. Elisha W. Finney
Executive Vice President, Finance
and Chief Financial Officer
Varian Medical Systems, Inc.
3100 Hansen Way
Palo Alto, California 94304-1030

**Re: Varian Medical Systems, Inc.
Form 10-K for the fiscal year ended September 28, 2012
Filed November 21, 2012
File No. 001-07598**

Dear Ms. Finney:

We have reviewed your letter dated April 3, 2013 and have the following comment. In our comment, 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 comment applies to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to this comment, we may have additional comments.

Form 10-K for the fiscal year ended September 28, 2012

Item 8. Financial Statements and Supplementary Data, page 86

Notes to Consolidated Financial Statements, page 90

Note 10- Commitments and Contingencies, page 113

Other Matters, page 117

1. We note from your response to our prior comment 2 that you “accrued the \$5 million low-end of the range...since no amount within the range was a better estimate than any other amount” and we also note related disclosures in your Form 10-K indicate that you

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are unable to estimate a range of reasonably possible loss for legal matters related to the University of Pittsburgh contingency. Additionally, we see you indicated in your response that the trial court presiding over the litigation assessed total aggregate judgment damages against you of approximately \$102 million. Given the referenced damages award and the disclosures in your response that you have range of loss estimates for the University of Pittsburgh contingency, please explain to us why your 2012 Form 10-K indicates that you are unable to estimate a range of reasonably possible losses and why you disclose in your filing that you cannot provide the range of loss disclosures required by FASB ASC 450-20-50-4(b). In addition, tell us why your response to our prior comment indicates the top-end of your estimated range of loss for the University of Pittsburgh contingency is only \$6 million in light of the fact the total aggregate judgment damages assessed against you appear to exceed \$100 million.

You may contact Eric Atallah, Staff Accountant at (202) 551-3663 or Jay Webb, Reviewing Accountant, at (202) 551-3603 if you have questions regarding these comments. In this regard, do not hesitate to contact me at (202) 551-3643 with any other questions.

Sincerely,

/s/ Jay Webb "for"

Kevin L. Vaughn
Accounting Branch Chief