



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 3030

April 18, 2018

Via E-mail

Gary E. Bischooping Jr.
Chief Financial Officer
Varian Medical Systems, Inc.
3100 Hansen Way
Palo Alto, California 94304-1038

**Re: Varian Medical Systems, Inc.
Form 10-K for the Fiscal Year Ended September 29, 2017
Filed November 27, 2017
Form 10-Q for the Quarterly Period Ended December 29, 2017
Filed February 7, 2018
File No. 001-07598**

Dear Mr. Bischooping:

We have reviewed your filing and have the following comment. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this comment within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comment applies to your facts and circumstances, please tell us why in your response.

After reviewing your response to this comment, we may have additional comments.

Form 10-Q for the Quarterly Period Ended December 29, 2017

Revenue Recognition, page 9

1. Your Oncology Systems contracts do not include a significant financing component because the primary purposes of your invoicing terms is to provide customers with simplified and predictable ways of purchasing your products and services, not to receive financing. On page 10, you disclose your VPT contracts entitle you to receive advance payment at the beginning of the contract but you do not typically consider this to be a significant financing component. Please explain to us how you determined that the payment terms of your contracts do not contain a significant financing component under

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ASC 606-10-32-15 through 32-18. Address how you concluded that the difference between the promised amount of consideration and the cash selling price is proportional to the reasons for that difference.

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

You may contact Gary Newberry at (202) 551-3761 or me at (202) 551-3662 if you have questions regarding comments on the financial statements and related matters. Please contact Tim Buchmiller at (202) 551-3635 or Geoffrey Kruczek, Senior Attorney, at (202) 551-3641 with any other questions.

Sincerely,

/s/ Kevin J. Kuhar

Kevin J. Kuhar
Accounting Branch Chief
Office of Electronics and Machinery