



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

Mail Stop 3030

November 16, 2009

Via Facsimile and U.S. Mail

Mr. Thomas E. Powell
Chief Financial Officer
TomoTherapy Incorporated
1240 Deming Way
Madison, Wisconsin 53717

**Re: TomoTherapy Incorporated
Amendment 2 to Form 10-K for the Year Ended December 31, 2008
Filed May 12, 2009
Form 10-Q for the Quarter Ended September 30, 2009
File No. 001-33452**

Dear Mr. Powell:

We have reviewed your filing and have the following comments. We have limited our review to only your financial statements and related disclosures and will make no further review of your documents. Where indicated, we think you should revise your documents in response to these comments. If you disagree, we will consider your explanation as to why our comments are 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 any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Amendment 2 to Form 10-K for the Year Ended December 31, 2008

Item 7. Management's Discussion and Analysis and of Financial Condition and Results of Operations, page 6

-Contractual Obligations and Commitments, page 18

1. We note within this table that you present minimum purchase agreements totaling \$6.9 million whereby payments are due in less than one year and within one-to-three years. In order to an enhance investor's understanding, please tell us and revise your future filings to explain the nature and terms of these minimum purchase arrangements in order to understand the timing and amount of your specified contractual obligations. Refer to the guidance in Item 303(A)(5) of Regulation S-K.

Item 8. Financial Statements and Supplementary Data, page 27

Consolidated Statements of Operations, page 30

2. We note from page 11 that service and other revenue accounted for 14% of total revenues. In future filings, revise to comply with Rules 5-03(b)(1) and (2) of Regulation S-X by separately presenting revenues from sale of products, revenues from services, cost of sales and cost of services on the face of the consolidated statements of operations.

Note B. Summary of Significant Accounting Policies, page 33

-Revenue Recognition, page 37

3. We note that you present deferred revenue and customer deposits within your consolidated balance sheet. Given the significance of these balances, please revise future filings to clearly describe how you present related deferred costs of revenues in your consolidated balance sheets. If you record both the deferred revenues and the deferred costs together in one line item on the balance sheet, please revise your disclosures here or in MD&A in future filings to disclose the gross amounts of deferred revenue and deferred costs that comprise these net amounts presented within your balance sheet.

-Net Income (Loss) Per Share of Common Stock, page 40

4. We note on pages 41 – 42 that you present pro forma net income (loss) per share information for the years ended December 31, 2007 and 2006 assuming the conversion of your preferred stock at the beginning of each period presented, contingent common shares, outstanding stock options and warrants. Please revise your future filings to present and disclose only U.S. GAAP measures within your financial statements or notes to the financial statements. Refer to the guidance in Item 10(e)(1)(ii)(c) of Regulation S-K.

-Segment Information, page 42

5. Please revise future filings to disclose the basis for attributing revenues from external customers to individual countries consistent with paragraph 280-10-50-41 of the FASB Accounting Standards Codification.

Note C. Restatements and Revisions, page 43

6. We note your disclosures on pages 43 – 44 related to your restatement for your accounting for income taxes of your financial statements as of and for the year ended December 31, 2008. Please explain to us in more detail the nature of each error and please separately quantify the impact of each individual error upon your consolidated financial statements as of and for the year ended December 31, 2008. Revise future filings as necessary. Refer to the guidance in 740-10 and 250-10-50 of the FASB Accounting Standards Codification.
7. We further note that you revised your consolidated balance sheet and consolidated statement of cash flows as of and for the year ended December 31, 2007 to net the liability for unrecognized tax benefits as of December 31, 2007 against the carrying amount of related deferred tax asset credit carryforwards and to increase additional-paid-in-capital and deferred tax assets for realization of additional tax benefits related to excess stock option deductions rather than the utilization of net operating losses. Please explain to us why you have changed your presentation of these line-items within your 2007 financial statements. Within your discussion, please discuss why you labeled these financial statements “as revised” versus “as restated.” Cite the accounting literature relied upon and how you applied the literature to your situation.

Note F. Commitments and Contingencies, page 48

8. We note your disclosure here and within your September 30, 2009 Form 10-Q that you have estimated that your potential loss will not exceed your insurance deductible of \$.5 million as of December 31, 2008 and June 30, 2009 related to the two complaints filed in the U.S. District Court for the Western District of Wisconsin against the company and its officers. It is unclear from your disclosure if you make your loss contingency

assessments on a net basis or gross basis, before consideration of any possible insurance claims. Please tell us and revise your note in future filings to clearly explain how you evaluate your contingencies under the guidance in 450-20 of the FASB Accounting Standards Codification.

Report of Independent Registered Public Accounting Firm, page 57

9. We note your independent auditor expressed an adverse opinion on the effectiveness of your internal controls over financial reporting as of December 31, 2008 and dual-dated its audit opinion as of March 12, 2009 (except for the material weakness discussed in paragraph three of the report of management on internal control over financial reporting as to which date is May 12, 2009). Please have your auditor explain to us why it dual-dated its audit opinion on the effectiveness of your internal controls over financial reporting as of December 31, 2008 and why the audit opinion is appropriately dated and accurate. Within its discussion, please have your auditor explain to us why it referenced paragraph three of management's report on your internal controls over financial reporting since your auditor did not opine upon management's report on internal controls over financial reporting.

Item 9A. Controls and Procedures, page 59

10. We note that your management concluded that you did not maintain effective controls over the accounting for income taxes as of December 31, 2008, but you have not addressed the effectiveness of your internal controls over financial reporting overall. Please note that Item 308(a)(3) of Regulation S-K requires you to file an annual report by management on internal control over financial reporting that includes a clear and definite statement as to whether internal control over financial reporting was or was not effective at the end of the fiscal year. Please amend your filing to provide management's conclusion as to the effectiveness of your internal control over financial reporting as of December 31, 2008.

Exhibit 32.2

11. We note that your certification furnished pursuant to Rule 13a-14(b) of the Exchange Act refers to the year ended December 31, 2007 rather than December 31, 2008. Please amend this filing to include currently signed and dated certifications that reference the appropriate periods. The amendment should include the entire filing with the revised certifications.

Form 10-Q for the Quarter Ended September 30, 2009

Notes to the Condensed Consolidated Financial Statements, page 7

Note F. Commitment and Contingencies, page 13

12. We note from your Forms 8-K Dated January 13, 2009, April 10, 2009, and April 24, 2009 that subsequent to December 31, 2008 you entered into supply agreements with Siemens AG Healthcare Sector and e2v, Inc. Please tell us and revise your notes in future filings to your financial statements to explain the nature and terms of these agreements including any minimum purchase obligations, if material.

Item 4. Controls and Procedures, page 29

13. We note your disclosures on page 30 related to the remediation of your material weaknesses for your tax accounting. You specifically state that you "continue to implement additional controls to address the remaining income tax accounting control deficiencies." Please tell us and revise your future filings to clearly disclose in more detail the changes in your internal control over financial reporting during the quarter ended September 30, 2009 that have materially affected, or are reasonably likely to materially affect, your internal control over financial reporting. Specifically, please explain in more detail the additional internal controls that you have implemented to address the tax accounting deficiencies. Refer to the guidance in 308(c) of Regulation S-K.

As appropriate, please amend your 2008 Form 10-K and respond to these comments within 10 business days or tell us when you will provide us with a response. You may wish to provide us with marked copies of the amendments to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested. 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 amendments and responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. 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:

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- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments 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.

You may contact Tara Harkins, Staff Accountant, at (202) 551-3639 or me at (202) 551-3616 if you have questions regarding these comments. In this regard, do not hesitate to contact Kevin Vaughn, Accounting Branch Chief, at (202) 551-3643.

Sincerely,

Lynn Dicker
Reviewing Accountant