



DIVISION OF  
CORPORATION FINANCE

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

Mail Stop 3628

March 12, 2009

**By Facsimile and U.S. Mail**

Ms. Brenda S. Furlow  
Vice President, Secretary and General Counsel  
TomoTherapy Incorporated  
1212 Deming Way  
Madison, Wisconsin 53717

**Re: TomoTherapy Incorporated  
Preliminary Proxy Statement on Schedule 14A  
Filed on March 6, 2009  
File No. 001-33452**

Dear Ms. Furlow:

We have conducted a limited review of the filing listed above and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why a comment is 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 supplemental information so we may better understand your disclosure. After reviewing this information, we may or may not raise additional comments.

Please understand that the purpose of our review process is to assist the filing persons in their compliance with the applicable disclosure requirements and to enhance the overall disclosure in their filings. 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.

PRE14A filed March 6, 2009

**General**

1. We note your proxy statement filed as PRE 14A does not carry the appropriate header tag on EDGAR. Proxy statements involving a contested election of directors must be designated as such by using the header tag PREC14A. To ensure that you properly identify the soliciting materials you file on EDGAR, please contact the SEC's Filer Support Branch at 202.551.8900.

2. Please confirm that you will post your proxy materials on a specified, publicly-accessible Internet Web site (other than the Commission's EDGAR Web site) and provide record holders with a notice informing them that the materials are available and explaining how to access those materials. Refer to Release 34-56135 available at <http://www.sec.gov/rules/final/2007/34-56135.pdf>.
3. Please provide a background discussion of the contacts, if any, the company has had with Avalon Portfolio, LLC during the time period leading up to the current solicitation. You should describe in sufficient detail whether the company's board of directors responded to contacts made by Avalon Portfolio and if material, the specifics of any discussions between the parties.

Q: How will my shares be voted.....?, page 5

4. You state that in addition to using their discretion to vote on matters for which a choice is not specified, "the proxy holders may determine in their discretion with respect to any other matters properly presented for a vote before the meeting." Please advise us, with a view toward revised disclosure, the legal basis upon which the registrant relied to conclude that proxy holders will be vested with the authority to exercise this level of discretion. For example, if an adjournment of the meeting is proposed as a means for soliciting additional proxies, the adjournment would constitute a separate substantive proposal for which proxies must be independently solicited and for which discretionary authority is unavailable. See Exchange Act Rule 14a-4(c). To the extent applicable, please revise this disclosure and the proxy card. For example, the proxy card should include an additional box and proposal seeking approval of broader discretion so that the shareholders may decide whether or not to vote in favor of granting the proxy holders with additional discretionary authority.

Q: Who is making and paying for this solicitation?, page 6

5. You indicate that your proxy solicitor, directors, officers and employees may solicit proxies mail, in person or by telephone. Please be advised that all written soliciting materials, including any scripts to be used in soliciting proxies by personal interview, telephone, television or radio, must be filed under the cover of Schedule 14A. Refer to Rule 14a-6(b) and (c). Please supplementally confirm your understanding.
6. Please clarify what you mean by characterizing the Avalon Group's intention to nominate four individuals for election to the board as a "threatened" proxy contest.

Proposal One – Election of Directors, page 8

7. Please disclose, if true, that each of the nominees has consented to serve as a director of the company if elected, and that each of the nominees has consented to being named in the proxy statement. See Rule 14a-4(d). If any person has not so consented, then that

person is not a bona fide nominee and such person may not be named in the proxy statement.

8. See last comment. We note your disclosure in the second full paragraph on page that you “[i]f any nominee becomes unable to serve as a director before the 2009 Annual Meeting (or decides not to serve), the individuals named as proxyholders may vote for a substitute.” Please revise to address whether any advance notice provisions affect your ability to designate other nominees. In addition, please note that we consider the existence of substitute nominees to be material to a security holder’s voting decision. Please advise as to why you believe you are permitted to use these proxies for the election of other unnamed nominees to be designated by you at a later date. Refer to Rule 14a-4(d)(1).
9. Please revise the proxy statement to disclose the reasons in support of the Board’s recommendation to vote for its slate of director nominees and to disregard other proxy cards that security holders receive.

Nominees for Election for a One-Year Term Ending with the 2010 Annual Meeting, page 8

10. Please revise the biographical information of the nominees so that it complies with Item 401 of Regulation S-K. Refer to Item 7(b) of Schedule 14A. For example, revise the biographies to ensure that you completely describe each individual’s business experience for the past five years and disclose the dates of experience by month and year. Also, ensure that there are no gaps or ambiguities regarding time in the five-year business sketches you provide. For example, we note that such information is lacking in the business description of the following individuals: Carlos A. Perez, Frederick A. Robertson, M.D., Roy T. Tanaka, and Frances S. Taylor.

Appendix A: Information Concerning Participants in the Company’s Solicitation of Proxies

11. Revise to delete the reference to “may be deemed” in this section. The persons identified in this section are participants. See Instruction 3 to Item 4 of Schedule 14A.
12. Please advise us whether or not, during the past ten years, any participant has been convicted in a criminal proceeding. If so, provide dates, the nature of conviction, the name and location of the court, and the penalty imposed. See Item 5(b)(iii) of Schedule 14A

Form of Proxy Card

13. Revise the form of proxy to clearly mark it as a “Preliminary Copy.” Refer to Rule 14a-6(e)(1).

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As appropriate, please amend your filing 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 amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment 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 is in possession of all facts relating to the company's disclosure, it is responsible for the accuracy and adequacy of the disclosures it has made.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- 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.

Please direct any questions to me at (202) 551-3757 or, in my absence, to Nicholas Panos, Senior Special Counsel, at (202) 551-3266. You may also contact me via facsimile at (202) 772-9203. Please send all correspondence to us at the following ZIP code: 20549-3628.

Sincerely,

Song Brandon  
Special Counsel  
Office of Mergers and Acquisitions