



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3628

March 23, 2009

By U.S. Mail

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

Re: TomoTherapy Incorporated
Amended Preliminary Proxy Statement on Schedule 14A
Filed on March 17, 2009
File No. 001-33452

Dear Ms. Furlow:

We have reviewed 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.

PRER14A filed March 17, 2009

Form of Proxy

1. We note your response to comment 4 and your revised disclosure to the form of proxy. Our comment sought for the issuer to include appropriate disclosure in the proxy statement and make corresponding revisions to the proxy card only if discretionary authority would be used to vote on matters *other than* those identified in Rule 14a-4(c). For example, if the adjournment of the meeting is intended as a means for soliciting additional proxies, the adjournment would constitute a separate substantive proposal for which proxies must be independently solicited. Discretionary authority is otherwise not

automatically available to vote on such a matter as proposals of this type are deemed known to exist in advance of the timeframe specified in Rule 14a-4(c)(1). Accordingly, please revise your proxy card to seek expressly discretionary authority for this purpose and revise the proxy statement to provide the information required under Item 21 of Schedule 14A. Alternatively, delete the proposal added in response to our initial comment and represent to us that the proxy holders will not vote on any proposal to adjourn the meeting for the purpose of soliciting additional proxies.

Proposal One – Election of Directors, page 10

2. We note your response to comment 8 and your supplemental response. Rule 14a-4(d)(1) does not confer the authority to vote for any person who is not a bona fide nominee. Substitute nominees who are unnamed and to be designated by you at a later date are not bona fide nominees. Accordingly, you are not permitted to use proxies for the election of a substitute nominee to the TomoTherapy board in the event a current nominee is unable to serve. Rule 14a-4(c)(5), which only describes the circumstances under which discretionary authority may be used, does not operate to waive other proxy disclosure requirements or Rule 14a-4(d). Please revise the proxy statement to include the following information for the substitute nominees: (i) the representation required under Rule 14a-4(d) that the substitute nominees have consented to be named and to serve if elected; and (ii) the biographical information required under Item 401 of Regulation S-K.

* * *

Please direct any questions to me at (202) 551-3621 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

VIA FACSIMILE (312-853-7036)

cc: Michael Gordon, Esq.
Beth Flaming, Esq.
Sidley Austin LLP