SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Amendment No. 2 to

SCHEDULE TO

Tender Offer Statement Under Section 14(d)(1) or 13(e)(1) of the Securities Exchange Act of 1934

CTI MOLECULAR IMAGING, INC.

(Name of Subject Company)

MI MERGER CO.

SIEMENS MEDICAL SOLUTIONS USA, INC.

SIEMENS AKTIENGESELLSCHAFT

(Names of Filing Persons (offeror))

Common Stock, Par Value \$0.01 Per Share

(Title of Class of Securities)

22943D105

(CUSIP Number of Class of Securities)

Kenneth R. Meyers, Esq.

Siemens Corporation

153 East 53rd Street

New York, New York 10022

(Name, address and telephone number of person authorized to receive notices

and communications on behalf of filing persons)

Copy to:

Stephen M. Besen, Esq.

Shearman & Sterling LLP

599 Lexington Avenue

New York, New York 10022

(212) 848-4000

Calculation of Filing Fee

Transaction Valuation* \$1,027,149,733.50

Amount of Filing Fee** \$120,895.53

- * Estimated for purposes of calculating the amount of the filing fee only. Calculated by multiplying \$20.50, the per share tender offer price, by 50,104,867, the sum of the 47,956,322 issued and outstanding shares of common stock as of March 17, 2005 and the 2,148,545 shares of common stock subject to vested options, warrants and deferred stock units.
- ** Calculated as 0.011770% of the transaction value.
- b Check the box if any part of the fee is offset as provided by Rule 0-11(a)(2) and identify the filing with which the offsetting fee was previously paid. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.

Amount Previously Paid: \$120,895.53 Filing Party: Siemens Aktiengesellschaft

Form or Registration No.: Schedule TO Date Filed: April 1, 2005

" Check the box if the filing relates solely to preliminary communications made before the commencement of a tender offer.

Check the appropriate boxes to designate any transactions to which the statement relates:

- b third-party tender offer subject to Rule 14d-1.
- " issuer tender offer subject to Rule 13e-4.
- " going-private transaction subject to Rule 13e-3.
- " amendment to Schedule 13D under Rule 13d-2.

Check the following box if the filing is a final amendment reporting the results of the tender offer: "

This Amendment No. 2 to the Tender Offer Statement on Schedule TO (this Amendment No. 2) amends and supplements the Tender Offer Statement on Schedule TO filed on April 1, 2005, as amended and supplemented by Amendment No. 1 to the Tender Offer Statement on Schedule TO filed on April 8, 2005 (as so amended, the Schedule TO), by Siemens Aktiengesellschaft, a corporation organized under the laws of the Federal Republic of Germany (Siemens AG), Siemens Medical Solutions USA, Inc., a Delaware corporation (Parent) and an indirect wholly owned subsidiary of Siemens AG, and MI Merger Co., a Delaware corporation (Purchaser) and a wholly owned subsidiary of Parent. The Schedule TO relates to the offer by Purchaser to purchase all the shares of common stock, par value \$0.01 per share, including the associated Series C Junior Participating Preferred Stock Purchase Rights issued pursuant to the Shareholder Protection Rights Agreement, dated as of May 21, 2002, between the Company (defined below) and SunTrust Bank, as rights agent (together, the Shares), of CTI Molecular Imaging, Inc., a Delaware corporation (the Company), that are issued and outstanding for \$20.50 per Share, net to the seller in cash, without interest, upon the terms and subject to the conditions set forth in the Offer to Purchase dated April 1, 2005 (the Offer to Purchase) and in the related Letter of Transmittal. Except as specifically provided herein, this Amendment No. 2 does not modify any of the information previously reported on the Schedule TO.

Capitalized terms not otherwise defined herein shall have the meanings assigned to them in the Offer to Purchase.

Item 3. Identity and Background of Filing Person.

A. Part 1 of Schedule I to the Offer to Purchase, Directors and Executive Officers of Siemens AG is hereby amended and supplemented by the following:

- 1. The Principal Occupation/Employments; Material Positions Held in Past Five Years with respect to Thomas Ganswindt, a member of the Managing Board, is amended to read: Executive Vice President; prior to October 1, 2004, Group President of Information and Communications Networks Group; prior to September 2001, member of Group Executive Management, Transportation Systems Group.
- 2. The Principal Occupation/Employments; Material Positions Held in Past Five Years with respect to Rudi Lamprecht, a member of the Managing Board, is amended to read: Executive Vice President; prior to October 1, 2004, Group President of Information and Communications Mobile Group.
- 3. The name of Dr. Heinrich von Pierer , a member of the Supervisory Board, is amended to read Dr. Heinrich v. Pierer .
- 4. The name of Dr. Josef Ackerman , a member of the Supervisory Board, is amended to read Dr. Josef Ackermann .
- 5. The name of John David Combe, a member of the Supervisory Board, is amended to read. John David Coombe.

- 6. The third line of the address of Dr. Gerhard Cromme, a member of the Supervisory Board, is amended to read 40211 Düsseldorf.
- 7. The Principal Occupation/Employments; Material Positions Held in Past Five Years with respect to Heinz Hawreliuk, a member of the Supervisory Board, is amended to read Head of Siemens AG Codetermination Department, IG Metall (Labor Union).
- 8. The second line of the address of Prof. Dr. Walter Kröll, a member of the Supervisory Board, is amended to read Helmholtz-Gemeinschaft Deutscher .
- 9. The Principal Occupation/Employments; Material Positions Held in Past Five Years with respect to Wolfgang Müller, a member of the Supervisory Board, is amended to read Head of Siemens Team, IG Metall (Labor Union).
- 10. The name of Lord Iain Valiance of Tummel, a member of the Supervisory Board, is amended to read Lord Iain Vallance of Tummel.
- B. Part 2 of Schedule I to the Offer to Purchase, Directors and Executive Officers of Parent is hereby amended and supplemented by the following:
- 1. The name of Erich Reinhardt, Citizen of Germany is amended in its entirety to read Prof. Dr. Erich Reinhardt, Siemens AG, Henkestrasse 127, D-91050 Erlangen, Germany, Citizen of Germany.
- 2. The Principal Occupation/Employments; Material Positions Held in Past Five Years with respect to George Nolen is amended by adding ; prior to January 2004, President and CEO of Information and Communication Networks, Inc.; prior to February 2002, President and CEO of Siemens Enterprise Networks, LLC .
- 3. The Principal Occupation/Employments; Material Positions Held in Past Five Years with respect to Klaus Stegemann is amended by deleting the word Client and replacing it with the word Chief.
- 4. The name of Georg Obermayr, the Chief Financial Officer of Parent, is amended to read Georg Obermeyer .

Item 4. Terms of the Transaction.

The fourth paragraph under the heading Acceptance for Payment and Payment for Shares on page 5 of the Offer to Purchase is hereby amended and restated in its entirety as follows:

If any tendered Shares are not accepted for payment for any reason pursuant to the terms and conditions of the Offer, or if Share Certificates are submitted evidencing more Shares than are tendered, Share Certificates evidencing unpurchased Shares will be returned, without expense, to the tendering stockholder (or, in the case of Shares tendered by

book-entry transfer into the Depositary s account at a Book-Entry Transfer Facility pursuant to the procedure set forth in Section 3, such Shares
will be credited to an account maintained at such Book-Entry Transfer Facility), promptly following the expiration or termination of the Offer.

The third sentence in the sixth paragraph under the heading Certain Information Concerning the Company on page 11 is deleted in its entirety.

Item 11. Additional Information

Item 11 of the Schedule TO is hereby amended and supplemented by including the following:

Siemens AG has been notified that its request for early termination of the waiting period applicable to the Offer under the German Regulation was granted, and such waiting period was terminated, effective April 12, 2005, satisfying the German Regulation Condition to the Offer.

Item 12. Exhibits

Item 12 of the Schedule TO is hereby amended and supplemented by including the following:

(a)(11) Joint Press Release issued by Parent and the Company on April 13, 2005.

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After due inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Dated: April 13, 2005

MI MERGER CO.

By: /s/ James Ruger

Name: James Ruger

Title: Vice President and Treasurer

By: /s/ Kenneth R. Meyers

Name: Kenneth R. Meyers

Title: Secretary

After due inquiry and to the best of my	knowledge and belief, I cer	rtify that the information ser	t forth in this statement is true,	complete and
correct.				

Dated: April 13, 2005

SIEMENS MEDICAL SOLUTIONS USA, INC.

By: /s/ Hermann Requardt

Name: Hermann Requardt Title: Vice Chairman

By: /s/ James Ruger

Name: James Ruger Title: Secretary

After due inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Dated: April 13, 2005

SIEMENS AKTIENGESELLSCHAFT

By: /s/ Hermann Requardt

Name: Hermann Requardt

Title: Group Executive Vice President

By: /s/ Goetz Steinhardt

Name: Goetz Steinhardt

Title: Group Executive Vice President

EXHIBIT INDEX

Exhibit

No.

(a)(11) Joint Press Release issued by Parent and the Company on April 13, 2005.