

September 12, 2008

VIA EDGAR AND OVERNIGHT DELIVERY

United States Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549-7010

Attention: Rufus Decker

**Re: Form 10-K for the fiscal year ended December 31, 2007
Forms 10-Q for the periods ended March 31, 2008 and June 30, 2008
File No. 1-33133**

Dear Mr. Decker:

This letter is being furnished on behalf of Metabolix, Inc. (the "Company") in response to comments of the staff (the "Staff") of the Securities and Exchange Commission (the "Commission") as set forth in your letter dated August 25, 2008 (the "Letter") to Joseph D. Hill, Chief Financial Officer of the Company, with respect to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2007 (the "2007 Annual Report") that was filed with the Commission on March 13, 2008 and the Company's Quarterly Reports on Form 10-Q for the periods ended March 31, 2008 and June 30, 2008 (collectively, the "Quarterly Reports") that were filed with the Commission on May 8, 2008 and August 11, 2008, respectively.

The responses and supplementary information set forth below have been organized in the same manner in which the Commission's comments were organized.

Form 10-K for the Year Ended December 31, 2007

General

Comment No. 1

Where a comment below requests additional disclosures or other revisions to be made, please show us in your supplemental response what the revisions will look like. These revisions should be included in your future filings.

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Response to Comment No. 1

The Company advises the Staff that additional disclosures or other revisions to be made based on the Staff's comments are reflected below in the Company's responses. We will revise our future filings, where applicable, to reflect such revisions.

Item 7A – Quantitative and Qualitative Disclosure About Market Risk, page 54

Comment No. 2

Please revise your disclosure to provide a more comprehensive discussion of the information required by Item 305 of Regulation S-K. Refer to the appendices to Item 305 for suggested formats for presentation of the information. Specifically, please consider providing a sensitivity analysis that expresses the potential loss in future interest income resulting from one or more selected hypothetical changes in interest rates.

Response to Comment No. 2

The Company respectfully acknowledges the Staff's comment. In accordance with Item 305 of Regulation S-K the Company will, in future filings, provide a sensitivity analysis that expresses the potential loss in future interest income resulting from one or more selected hypothetical changes in interest rates.

We will include disclosure in the following form regarding our qualitative and quantitative disclosure about market risk in our future filings (amounts in thousands):

Item 7A. Quantitative and Qualitative Disclosure About Market Risk

Our exposure to market risk is confined to our cash, cash equivalents and marketable securities. The unrestricted cash and cash equivalents and marketable securities are held for working capital purposes. Our primary investment objective is capital preservation, with a secondary objective of generating income on such capital. We do not enter into investments for trading or speculative purposes.

Interest Rate Risk.

We invest in high-quality financial instruments, primarily money market funds, federal agency notes, U.S. treasury notes, investment-grade commercial paper, and corporate debt securities. All of our interest-bearing securities are subject to interest rate risk and could decline in value if interest rates fluctuate. Because of the short-term maturities of our cash equivalents and marketable securities, we do not believe that an increase in market rates would have any significant impact on the realized value of our marketable securities. However, in a declining interest rate environment, as short term investments mature,

reinvestment occurs at less favorable interest rates. Given the short term nature of our investments, anticipated declining interest rates would negatively impact our investment income. Exposure to market rate risk for changes in interest rates relates to our cash, cash equivalents and investment in marketable securities, totaling

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\$109,824 at December 31, 2007. Based on a hypothetical 10% adverse movement in interest rates, the potential annual losses in future earnings and cash flows are estimated to be \$607.

Form 10-Q for the Period Ended June 30, 2008

Financial Statements

Note 13 – Change in Accounting Estimate, page 13

Comment No. 3

We note that you determined in the first quarter of 2008 to extend the use of your pre-commercial manufacturing plant. Please enhance your disclosure to clarify how you will extend the use of the plant. Disclose what the depreciable lives were before the change in accounting estimate and what they were changed to. In addition, please also disclose the estimated annual impact of this change in accounting estimate on income from continuing operations, net income and earnings per share.

Response to Comment No. 3

The Company respectfully acknowledges the Staff's comment. We will, in future filings, enhance our disclosure to clarify how we will extend the use of the plant. In addition we will disclose what the depreciable lives were before the change in accounting estimate and what they have been changed to. We will also disclose the estimated annual impact of the change in accounting estimate on income from continuing operations, net income and earnings per share. We will disclose this information in footnotes to the financial statements and the management discussion and analysis section of the Form 10-Q. The forward looking statement will only be disclosed in the management discussion and analysis section of the Form 10-Q.

We will include disclosure in the following form regarding our change in accounting estimate in our future filings (amounts, except per share amounts, in thousands):

CHANGE IN ACCOUNTING ESTIMATE

In the first quarter of 2008, due to an extended construction period and revised estimated completion date of the Commercial Manufacturing Facility, the Company determined it would extend the period of use of its pre-commercial manufacturing plant by six months to June 2009 from December 2008. In connection with this, the useful lives of the leasehold improvements connected to the pre-commercial manufacturing plant were increased by six months. This change in accounting estimate was adopted prospectively. The effect of the change in estimate on the financial statements for the

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three and six months ended June 30, 2008 is a decrease in loss from operations and net loss of \$363 and \$711, respectively. Loss per share decreased by \$0.02 and \$0.03 for the three and six months ended June 30, 2008. The estimated annual impact of this change in accounting estimate for the year ended December 31, 2008 is a decrease in loss from operations and net loss of \$1,422 and a decrease in loss per share of \$0.06, based on the number of shares used in the per share calculations for the six months ended June 30, 2008.

Exhibits 31.1 and 31.2

Comment No. 4

We note that the certifying individuals included their titles in the introductory sentence of the certifications required by Item 601(b)(31) of Regulation S-K and that the titles of the certifying individuals were included in the introductory sentence of the certifications required by Item 601(b)(31) of Regulation S-K in exhibit 31.1 to the 10-K and exhibits 31.1 and 31.2 to the March 31, 2008 10-Q. Confirm that the individuals certified the reports in their individual capacities and remove their titles from the introductory sentence of the certifications required by Item 601(b)(31) of Regulation S-K.

Response to Comment No. 4

The Company advises the Staff that the certifying individuals certified the reports in their individual capacities for all periods noted. For all future filings required by Item 601(b)(31) of Regulation S-K, the individuals will not include the titles of the certifying individuals in the first sentence of the certifications required by Item 601(b)(31) of Regulation S-K.

The Company acknowledges that:

- the Company is responsible for the adequacy and accuracy of disclosures in its filings;
- Staff comments or changes to disclosure in response to Staff comments do not foreclose the Commission from taking any action with respect to the Company's filings; 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.

If you have any questions with regard to the Company's responses, need further supplemental information or would like to discuss any of the matters covered in this letter, please contact the undersigned at (617) 583-1700.

Sincerely,

/s/ JOSEPH D. HILL

Joseph D. Hill

Chief Financial Officer