



DIVISION OF
CORPORATION FINANCE

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

July 20, 2010

Mr. David H. Fater
Chief Executive Officer and Chief Financial Officer
Vicor Technologies, Inc.
2300 Corporate Boulevard, N.W., Suite 123
Boca Raton, Florida 33431

Re: Vicor Technologies, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2009
Filed March 31, 2010
Form 10-Q for the Fiscal Quarter Ended March 31, 2010
File No. 0-51475

Dear Mr. Fater:

We have reviewed your response letter dated July 7, 2010 and filing and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your documents. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Form 10-K for the Fiscal Year Ended December 31, 2009

Item 9A(1). Controls and Procedures, page 27

1. We note that in your response to our prior comment number three in our letter of June 22, 2010, you will again conclude that your disclosure controls and procedures were effective as of the end of the fiscal year. We further note the additional disclosures you agree to provide in response to comments 5, 9, 22 and 23. Please consider whether these additional disclosures impact management's conclusion regarding the effectiveness of your disclosure controls and procedures as of the end of the fiscal year. Please tell us the factors you considered that supported your conclusion, given the definition of disclosure controls and procedures in Rule 13a-15(e). Alternatively, please further amend your filing to disclose management's revised conclusion on the effectiveness of your disclosure controls and procedures.

Consolidated Financial Statements, page F-1

2. We note from your responses to prior comments 2-5, 9, 22, 23, 27 and 28 that you intend to amend your December 31, 2009 Form 10-K, March 31, 2010 Form 10-Q, and your Form S-1, registration number 333-167194 filed on May 28, 2010. Please note that we may have additional comments once you amend those filings.

Cumulative Effect of a Change in Accounting Principle, page F-13

3. We have considered your response to our prior comment number 11. Please tell us your underlying assumptions and calculations as to how you determined the aggregate fair value of the derivatives at issuance and as of January 1, 2009.

Note 4. Current Debt, page F-17

4. Further to your response to prior comment 12, please tell us why you did not reflect the difference between the reacquisition price and the net carrying value of the debt as a loss and identify the amounts as a separate item. Refer to FASB ASC 470-50-40-2. Please also confirm, if true, that in your response 'value' as it relates to the preferred stock and common stock means fair value and 'value' as it relates to the debt means carrying value.

5. We note that your response to prior comment 12 refers to an induced conversion. Please tell us whether the debt was convertible debt and how you considered the requirements of FASB ASC 470-20-40-13, 40-15 and 40-16. We note that under FASB ASC 470-20-40-16, you would recognize an expense equal to the fair value of the securities transferred in the transaction in excess of the fair value of securities issuable pursuant to the original conversion terms.

Note 5 – Long-Term Debt, page F-18

6. We note from your response to prior comments 16 and 20 that you believe you provided the required disclosures in Note 7. We could not locate the disclosures describing the number or terms of the warrants that were issued with the debt, including those terms that are causing you to account for the warrants as a liability and the type of stock issuable upon exercise of the warrants (e.g., preferred stock or common stock). We also could not locate any disclosure to explain the nature of the issuance of the debt with the warrants. Please revise to provide the disclosure or tell us where it is included in the notes to your financial statements.
7. Further to your response to prior comment 17, please tell us whether you have any non-employee warrants or other securities that are not accounted for as liabilities and, if so, how you considered FASB ASC 815-40-25-19 through 25-24.

Note 6 – Preferred Stock, page F-19

8. We note the warrants are exercisable for a period of three to ten years. Please disclose the amount of warrants by expiration dates.
9. We note from your response to prior comment 20 that you believe you provided the required disclosures in Note 7. We could not locate the disclosures describing the number or terms of the warrants that were issued with the preferred stock, including those terms that are causing you to account for the warrants as a liability and the type of stock issuable upon exercise of the warrants (e.g., preferred stock or common stock). We also could not locate any disclosure to explain the nature of the issuance of the preferred stock with the warrants. Please revise to provide the disclosure or tell us where it is included in the notes to your financial statements.

10. We note from your response to prior comment 20 that the preferred stock has a liquidation preference. Please tell us why you did not include the disclosure of the liquidation preference on your balance sheet as discussed in FASB ASC 505-10-50-4.

Note 7. Stockholders' Equity, page F-20

11. We note from your March 31, 2008 Form 10-Q that you extended the expiration dates for 580,858 warrants expiring in 2008 and the extension of these warrants had no accounting ramifications. Please tell us about your accounting considerations for the extension and why you did not consider the transaction similar to the issuance of a new warrant in exchange for the old expiring warrant with the difference between the fair value of the old warrant just prior to the exchange and the fair value of the new warrant treated as a preferential dividend to those warrant holders. Refer to FASB ASC 718-20-35-3. Please also tell us why you do not discuss the extension in your Form 10-K.

Note 9. Fair Value of Financial Instruments, page F-23

12. Please revise the table on page F-25 to separately reflect the value of each major security type within your derivative liabilities (i.e., preferred stock conversion feature, convertible notes conversion feature and warrants) and the related assumptions used to determine their fair value. Refer to FASB ASC 820-10-50-2 and paragraph 320-10-50-1B.
13. We note your response to prior comment 24. We note from your proposed disclosure in response to prior comment 9 that you determine the fair value of a derivative at the time of its conversion or exercise. We also note from your rollforward that you reflect an amount for purchases, sales and other for the preferred stock and 8% subordinated convertible notes but you do not reflect an amount related to realized gains or losses from the derivative. Given your explanation of the nature of this account, please tell us why there is no amount reflected for realized earnings.
14. Please tell us the significant differences in the inputs used to calculate fair value as of issuance of each security and as of December 31, 2008 and 2009 and March 31, 2010 that resulted in the changes in the fair value of your preferred stock conversion feature, warrants and debt conversion features. Please include a discussion of the mark-to-market gain of \$999,000 in 2008 for purposes of your calculation of the cumulative effect as shown in your response to prior comment 11.

Mr. David H. Fater
Vicor Technologies, Inc.
June 20, 2010
Page 5

Form 10-Q for the Quarterly Period Ended March 31, 2010

Note 3 – Summary of Significant Accounting Policies and Basis of Presentation, page 9

Revenue Recognition, page 11

15. We have considered your response to our prior comment number 28. Please tell us the terms of the sales to your distributor, and how these terms meet the criteria of ASC 605-15-25-1.
16. For sales to physicians please also tell us how you evaluate future returns under the guidance of ASC 605-15-25-3.
17. Please amend your Form 10-Q to include a discussion of your revenue recognition policies similar to your response.

You may contact Gary Newberry at (202) 551-3761 or Kate Tillan, Assistant Chief Accountant, at (202) 551-3604 if you have any questions. You may also contact me at (202) 551-3671.

Sincerely,

Martin James
Senior Assistant Chief Accountant