



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3030

June 22, 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 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 S-1 filed May 28, 2010

1. Please reflect any relevant changes made as a result of your responses to our comments on your Form 10-K and 10-Q below in an amendment to your Form S-1.

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

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 23

Plan of Operations, page 23

2. Please disclose the relevant terms of your debt, stock and warrant offerings, and any expected material changes in the mix of such resources. In particular, address the financial impact on these resources of a potential liquidity or qualified funding event, as defined by the terms of these securities. Refer to Regulation S-K Item 303(a)(2).

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

3. We note your disclosure regarding your officers' conclusions about the effectiveness of the Company's disclosure controls and procedures. While you are not required to include the definition of disclosure controls and procedures in your conclusion, when you do so in future filings - including the requested amendment to your Form 10-K, all of the language that appears following the word "effective" in your conclusion must be consistent with and not modify the language that appears in the definition of "disclosure controls and procedures" set forth in Rule 13a-15(e) of the Exchange Act. Alternatively, in future filings, you may remove that definition.

Consolidated Financial Statements, page F-1

Report of Independent Registered Public Accounting Firm, page F-2

4. We note your auditors' reference to having conducted their audits in accordance with generally accepted auditing standards as established by the Auditing Standards Board (United States) and the *auditing* standards of the Public Company Accounting Oversight Board (United States) in the second paragraph of their report. Please request your auditor to amend their report to comply with AS 1, which requires an auditor to make reference in its report to *the standards of the Public Company Accounting Oversight Board (United States)* instead of generally accepted auditing standards, U.S. generally accepted auditing standards, auditing

standards generally accepted in the United States of America, or standards established by the AICPA.

Consolidated Statements of Operations, page F-4

5. Please reconcile the total amount of interest expense of \$1,944,000 in fiscal 2009 with your disclosures in the statements of cash flows related to your adjustments of noncash interest expense to reconcile net loss to net cash used in operating activities. Please similarly reconcile the amount shown in your statements of cash flows for shares in lieu of interest payments to the issuance of stock for interest payments in your statements of shareholders' equity for 2008.
6. Please tell us why you classified the cumulative effect of a change in accounting principle after and not as part of your determination of net loss. Please similarly discuss your classification of the value of warrants issued as part of the preferred dividend after determining your net loss.

Consolidated Statements of Changes in Stockholders' Equity, page F-5

7. Please show us how you determined the amount of accrued dividends on preferred stock for 2008 and 2009. Tell us how you determined the allocation of the dividend in 2007 of a credit to APIC for \$1,071,000 and a debit to accumulated deficit for \$1,782,000. Please reconcile to your consolidated statements of operations.

Consolidated Statements of Cash Flows, page F-8

8. Please reconcile the amount reflected as an adjustment to net loss related to securities issued for services of \$204,000 and \$937,000 in 2008 and 2009, respectively to your statements of shareholders' equity.

Note 3 - Summary of Significant Accounting Policies and Basis of Presentation, page F-12

9. Please disclose your current accounting policies for beneficial conversion features, embedded derivatives and detachable warrants issued in connection with your debt and equity securities, and how such policies relate to your financial statement line items. Include a discussion of how often the instruments are valued.

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

10. Please disclose the effect of the change on net income, any other affected financial statement line item, and any affected per-share amounts for the current period. Refer to Accounting Standards Codification (ASC) 250-10-50-1, b.2.
11. Please tell us how you applied paragraph 21 of EITF 07-05 in determining the cumulative effect adjustment for your adoption of this standard. Discuss how you determined both the amounts recorded and how you classified the amounts.

Note 4. Current Debt, page F-17

12. You disclose that in 2008 you exchanged a portion of your 2004 notes and 12% convertible promissory notes for shares of Series B Junior convertible preferred stock and you recognized \$329,000 and \$522,000 of interest expense. You also disclose that in 2009 and 2008 you exchanged common shares for the 15% promissory notes and recognized \$88,000 and \$248,000 of interest expense. And you disclose that you exchanged common shares for a 10% promissory note in 2009 and recognized \$79,00 of interest expense. Please tell us about your evaluation of the accounting for the transactions, your measurements and classification as interest expense. Refer to FASB ASC 405-20 and 470-50-40.
13. Please similarly tell us about your evaluation of the accounting, measurement and classification of the debt redeemed for cash and 11,719 immediately exercisable penalty warrants.
14. You disclose that in 2008 you sold \$300,000 of 15% notes with 90,000 shares of common stock representing \$109,000 of interest expense. Please tell us about your evaluation of the accounting for the notes and common shares issued. Explain why the common stock represented interest expense of \$109,000. Include a discussion of all of the significant terms of the notes and the total proceeds from the transaction.
15. Please also tell us how you accounted for the other modifications of the terms of the 2004 notes, the 12% convertible promissory notes, and the 15% promissory notes including the extensions of the maturity dates, changes in the terms of the conversion feature and the issuance of common stock. of the notes and whether the stockholder is also an officer or director of the company. Refer to FASB ASC 470-50.

Note 5 – Long-Term Debt, page F-18

16. Please disclose in summary form the pertinent rights and privileges for the warrants you have issued in connection with each debt issuance. Refer to ASC 470-10-50-5 and ASC 505-10-50-3.
17. You disclose that the conversion terms of the 8% convertible notes include a conversion price that is the lesser of 75% of the weighted average common stock price for the three days immediately prior to the date of conversion notice or \$1.07 per share. Please summarize for us your analysis of whether the company has sufficient authorized and unissued shares available to settle other contracts after considering all other commitments that may require the issuance of stock during the maximum period the derivative contract could remain outstanding.
18. Please tell us how you allocated the proceeds of the 8% convertible notes and 8% convertible promissory notes between the debt and the bifurcated conversion feature. Tell us how you are accounting for the discount on the notes. Please also tell us whether you re-valued the derivative to fair value immediately prior to the conversion of the related notes.
19. Please tell us where the \$1,966,000 and \$559,000 initial fair values of the conversion features of the 8% convertible notes and the 8% subordinated convertible promissory notes is represented in the rollforward on page F-26.

Note 6 – Preferred Stock, page F-19

20. Please disclose in summary form the pertinent rights and privileges of your preferred stock and warrants. Refer to ASC 505-10-50-3.
21. Please tell us about the nature of the conversion terms of the Series B junior convertible preferred stock and warrants and your evaluation to determine that the conversion option and the warrants should be reflected as a derivative liabilities. We note the disclosure on page F-24.

Note 7 - Stockholders' Equity, page F-20

22. Please expand your footnote to disclose the weighted average remaining contractual term for the outstanding warrants. Refer to ASC 505-10-50-7.

23. Please provide all of the disclosures required by ASC 718-10-50-2 for your stock option plans. In particular, for your 2008 plan, provide the weighted average grant date fair value; and for vested options, the weighted average remaining contractual term.

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

24. With respect to the rollforward on page F-26, please tell us the nature of the transactions represented by the following line items:
- Included in earnings - realized
 - Included in earnings - unrealized
 - Purchases, sales and other
 - Settlements and issuances, net
25. Please provide us with a separate rollforward of the change in the value of the derivative liability of the debt, preferred stock and warrants.
26. Please tell us where you classify the changes in the fair value of your derivative liability due to subsequent measurements of the liability (e.g., at each quarter end).

Exhibits 31.1 and 31.2

27. We note that the title of the certifications required by Exchange Act Rule 13a-14(a) is not worded exactly as required by Regulation S-K Item 601(b)(31). In your amendment, please revise the title of this exhibit to read "Certifications".

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

28. Please tell us your policy for recognition of product revenue by addressing all of the criteria required for such recognition as described in SAB Topic 13.A. As part of your response, please describe the terms of your product sales and how such sales conform to your policy.

Mr. David H. Fater
Vicor Technologies, Inc.
June 22, 2010
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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 the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In responding to our comments, please provide a written 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.

You may contact Gary Newberry at (202) 551-3461, or me at (202) 551-3604 if you have any questions.

Sincerely,

Kate Tillan
Assistant Chief Accountant