

June 23, 2006

Via EDGAR

Mr. Kevin L. Vaughn
Reviewing Accountant
Securities and Exchange Commission
Mail Stop 6010
102 F Street, N.E.
Washington, D.C. 20549-0306

**Re: Vicor Corporation
Form 10-K for the year ended December 31, 2005
File No. 0-18277**

Dear Mr. Vaughn:

This letter is submitted on behalf of Vicor Corporation (“Vicor” or “the Company”) in response to comments of the staff of the Division of Corporation Finance (the “Staff”) of the Securities and Exchange Commission (the “Commission”) with respect to the Company’s Form 10-K for the year ended December 31, 2005, as set forth in the letter dated June 13, 2006 from the Staff to Mr. Mark A. Glazer (the “Comment Letter”).

For reference purposes, the text of the Comment Letter has been reproduced herein with responses below each numbered comment.

Form 10-K as of December 31, 2005

Note 14. Segment Information, page 47

1. *Based on your disclosures on pages 2 through 4 of the filing, it appears that you offer multiple different product lines. Please revise future filings to disclose revenues by product group in accordance with paragraph 37 of SFAS 131.*

Response to Comment No. 1

We note the Staff’s comment. Paragraph 37 of Statement of Financial Accounting Standards No. 131 (“SFAS 131”) states that “An enterprise shall report the revenues from external customers for each product and service or each group of similar products and services unless it is impracticable to do so.” We have historically not disclosed revenues by product as we believe that the products offered by the Company comprise a single group of similar products. All of the Company’s products are part of the power supply product group, which provide the same basic functionality which converts electric power from a primary source, for example, a wall outlet or a battery source, into the stable DC voltages required by electronic circuits. The products are manufactured using common production processes and are sold to similar types of customers

using similar distribution channels. We will continue to evaluate the disclosure requirements under paragraph 37 as the Company's product offerings change and will consider disclosure of revenues by product group, as required, in future filings.

2. *We note the statements by your CEO and chief operating decision maker included in the press release furnished on your Form 8-K dated April 24, 2006. Specifically, we refer to the statements that "while revenues and profitability in our brick business are improving, V•I Chip and Picor are gearing up to support their respective product roadmaps and business strategies" and "in Vicor, Picor and V•I Chip [you] see independent prospects for an exciting future...to achieve operational excellence, [you] have empowered leadership teams capable of tackling their respective tasks." These statements appear to indicate that you have more than one line of business for which discrete financial information is available and is reviewed by him.*
 - *Please identify for us each of your operating segments, clearly describing the business activities of each.*
 - *If different from the lines of business identified by your chief operating decision maker, please explain why that is the case. Refer to paragraph 10 of SFAS 131.*
 - *Using the product discussions included on pages 2 through 4, clearly identify the products and services provided by each operating segment.*
 - *Provide us with your analysis supporting your conclusion that you have only one reportable segment. Clearly explain how each of your operating segments met the aggregation criteria outlined in paragraph 17 of SFAS 131, including the criteria for similar economic characteristics.*

Response to Comment No. 2

We note the Staff's comments. Paragraph 10 of SFAS 131 provides the definition of an operating segment, as follows:

"An operating segment is a component of an enterprise:

- a. That engages in business activities from which it may earn revenues and incur expenses (including revenues and expenses relating to transactions with other components of the same enterprise),
 - b. Whose operating results are regularly reviewed by the enterprise's chief operating decision maker to make decisions about resources to be allocated to the segment and assess its performance, and
 - c. For which discrete financial information is available."
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For each of the items outlined in paragraph 10 of SFAS 131 the Company's evaluation is as follows:

- a. The business components identified by the Company's chief operating decision maker ("CODM") in the Company's press release furnished on Form 8-K dated April 24, 2006 each engage in activities from which they earn revenues and incur expenses.
- b. The CODM does not regularly review the operating results of the business components identified by the CODM in the Company's press release furnished on Form 8-K dated April 24, 2006. The CODM makes decisions about resources to be allocated and assesses the Company's performance based on the Company's monthly consolidated operating results and consolidated balance sheet. The Company's annual operating plan, which is reviewed by the CODM, is based on the consolidated entity. The key measures that the CODM uses to manage the Company's business and to make decisions are consolidated revenues, gross margin, the overall level of operating expenses, net income, and the level of and changes in consolidated cash and investments, accounts receivable, inventories and capital spending.
- c. Discrete financial information is available for Picor Corporation ("Picor"), a wholly-owned subsidiary of Vicor. While Picor does sell products for use in a variety of power system applications, the majority of its efforts since its inception in 2001 have been to assist Vicor with research and development for its products. The V•I Chip business is not a separate subsidiary or division of Vicor, and separate discrete financial information for V•I Chip was not generated for the first ten months of 2005. Certain limited discrete financial information for the V•I Chip business was generated in November and December 2005. However, the limited discrete financial information for V•I Chip was not complete nor in a form for review by senior management.

Based on these considerations, the Company believes it has only one operating segment and has therefore complied with the disclosure requirements of SFAS 131 in the Company's annual report filed on Form 10-K for the year ended December 31, 2005. We will continue to evaluate these requirements and will provide the required disclosures regarding multiple operating segments in future filings if, in the future, the Company determines that it has multiple operating segments as defined in paragraph 10 of SFAS 131.

3. *We note you state that you "operate in one industry segment." Notwithstanding the comment above, please review future filings to clarify, if true, that you have only one reportable segment based on the guidelines of SFAS 131.*
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Response to Comment No. 3

We note the Staff's comment and we agree to modify the disclosure in future filings to state, if true at that time, that we have only one reportable segment.

* * * * *

In connection with providing our responses to your comments, we acknowledge that:

- The Company is responsible for the adequacy and accuracy of the disclosure in its filings with the Commission;
- 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 with the Commission; 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 should have any questions concerning the enclosed matters, please contact either Mark Glazer at (978) 749-3215 or Dick Nagel at (978) 749-3424.

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Reviewing Accountant
Securities and Exchange Commission
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Regards,

/s/ Patrizio Vinciarelli

Patrizio Vinciarelli
President
Chief Executive Officer

/s/ Mark A. Glazer

Mark A. Glazer
Chief Financial Officer

/s/ Richard J. Nagel, Jr.

Richard J. Nagel, Jr.
Vice President
Chief Accounting Officer