

July 20, 2011

Via EDGAR

Mr. Kevin L. Vaughn
Accounting Branch Chief
Securities and Exchange Commission
Mail Stop 3030
100 F Street, N.E.
Washington, D.C. 20549-0306

Re: Vicor Corporation
Form 10-K for the Year Ended December 31, 2010
Filed March 3, 2011
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, 2010, as set forth in the letter dated July 12, 2011, from the Staff to Mr. James A. Simms (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 for the Year Ended December 31, 2010

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

Year ended December 31, 2010 compared to Year ended December 31, 2009, page 28

1. *We note your disclosure of sales by segment and the segment information provided in footnote 16 of the financial statements. In future filings please provide a discussion of the profitability and cash needs of your segments or tell us why such discussion is not required. Refer to Section 501.06.a of the Financial Reporting Codification.*
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Response to Comment No. 1

We agree with your comment. We will provide a discussion of the profitability and cash needs of our segments in future Form 10-K filings, in accordance with Section 501.06.a of the Financial Reporting Codification.

Notes to Consolidated Financial Statements, page 42

Note 2 — Significant Accounting Policies, page 42

Inventories, page 44

2. *You have disclosed risks of additional production capacity on page 15. In future filings please expand your accounting policy to address your treatment of fixed production overheads. Refer to paragraphs 330-10-30-1 through 8 and 330-10-50-1 of the FASB Accounting Standards Codification.*

Response to Comment No. 2

We agree with your comment. We will expand our accounting policy for Inventories in future filings to include disclosure of our treatment of fixed production overheads, in accordance with paragraphs 330-10-30-1 through 8 and 330-10-50-1 of the FASB Accounting Standards Codification.

Note 15 — Commitments and Contingencies, page 66

3. *We note your disclosures related to your various outstanding litigation. To the extent you have any loss contingencies for which you have not recorded accruals or for which exposure to loss exists in excess of the amount accrued, please revise your disclosures to include the disclosures required by paragraph 450-20-50-4 of the FASB Accounting Standards Codification.*

Response to Comment No. 3

We believe we have complied with the disclosures required by paragraphs 450-20-50-1 through 4 of the FASB Accounting Standards Codification for the various outstanding litigation in our Form 10-K for the year ended December 31, 2010. In particular, in the matter of the litigation filed by SynQor, Inc. ("SynQor") against the Company, please note we disclosed in Note 15 the amount of any compensatory and enhanced damages, interest, costs and attorney fees sought by SynQor is unspecified. For certain other incidental litigation and claims outstanding, implied in

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the last paragraph of Note 15 on page 68, management has assessed these to be immaterial, individually and in the aggregate, and the likelihood of loss, if any, is remote, and, therefore, any additional disclosure is not required. We will continue to update the status of these matters in future filings as the facts and circumstances warrant and / or if the requirements for disclosure are met in accordance with 450-20-50-1 through 4 of the FASB Accounting Standards Codification.

Evaluation of disclosure controls and procedures, page 71

4. *You state that your disclosure controls and procedures are reasonably effective. In future filings, please revise your conclusion to state, if true, that your disclosure controls and procedures are effective at the reasonable assurance level. Refer to SEC Release Number 33-8238, Section II.F.4.*

Response to Comment No. 4

We agree with your comment. We will revise the wording in future filings to state that our disclosure controls and procedures, if true, are effective at the reasonable assurance level in accordance with SEC Release Number 33-8238, Section II.F.4.

5. *We note your disclosure regarding your officers' conclusions about the effectiveness of the Company's disclosure controls and procedures. We note that the language that appears after your conclusion differs from the definition of disclosure controls and procedures as set forth in Rule 13a-15(e) of the Exchange Act. While you are not required to include the definition of disclosure controls and procedures, when you do, all of the language must be consistent with the language that appears in the two-sentence definition of "disclosure controls and procedures" set forth in Rule 13a-15(e) of the Exchange Act. Please revise future filings to either include the full two-sentence definition or to remove the definition.*

Response to Comment No. 5

We agree with your comment. We will revise the language in future filings to include the full two-sentence definition of disclosure controls and procedures as set forth in Rule 13a-15(e) of the Exchange Act.

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Accounting Branch Chief
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In connection with providing our responses to your comments, we acknowledge:

- 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 these responses, please contact either Mr. Simms at (978) 749-3215 or Mr. Nagel at (978) 749-3424.

Regards,

/s/ James A. Simms

James A. Simms
Vice President
Chief Financial Officer

/s/ Richard J. Nagel, Jr.

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