

August 30, 2017

Via EDGAR

Mr. Martin James
Senior Assistant Chief Accountant
Office of Electronics and Machinery
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 Fiscal Year Ended December 31, 2016
Filed March 7, 2017
File No. 000-18277

Dear Mr. James:

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, 2016, as set forth in the letter dated August 23, 2017, from the Staff to Mr. James A. Simms (the “Comment Letter”).

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

Form 10-K for the Fiscal Year Ended December 31, 2016

Consolidated Financial Statements

Note 17. Segment Information, page 79

- 1. We note from pages 12 and 54 that international revenues approximated 60% in 2016. Revise this note in future filings to include the geographic information relating to revenues and long-lived assets required by ASC 280-10-50-41.*

Response to Comment No. 1

The Company respectfully acknowledges the Staff's comment. In response to the Staff's request, the Company will provide the geographic information relating to revenues required by ASC 280-10-50-41 in future Form 10-K filings. The Company will provide information relating to long-lived assets required by ASC 280-10-50-41 in future Form 10-K filings when those amounts are material to the consolidated financial statements. Historically, the Company has not disclosed long-lived assets in all foreign countries as the amount has not been material. As of December 31, 2016, property, plant and equipment, net in all foreign countries was approximately \$436,000.

2. *We note on pages 12 and 54 the discussion of the revenues you earned from your five largest customers in 2016. Please revise this note in future filings to include the information relating to your major customers, including identifying the segments reporting the revenues, as required by ASC 280-10-50-42.*

Response to Comment No. 2

The Company respectfully acknowledges the Staff's comment. In response to the Staff's request, in future Form 10-K filings, the Company will provide the information relating to its major customers, including identifying the segments reporting the revenues, as required by ASC 280-10-50-42.

* * * * *

In connection with providing our responses to your comments, we acknowledge the Company and its management are responsible for the accuracy and adequacy of the disclosures in the Company's filings with the Commission, notwithstanding any review, comments, action or absence of action by the Staff.

Mr. Martin James
Senior Assistant Chief Accountant
Securities and Exchange Commission
August 30, 2017
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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