

Via Facsimile and U.S. Mail
Mail Stop 4720

May 27, 2010

Michael J. Celebrezze
Senior Vice President of Finance,
Chief Financial Officer and Treasurer
LCA-Vision Inc.
7480 Montgomery Road
Cincinnati, OH 45236

**Re: LCA-Vision Inc.
Form 10-K for the Fiscal Year Ended December 31, 2009
Filed February 26, 2010
File Number 000-24469**

**Definitive Proxy Statement
Filed April 1, 2010**

Dear Mr. Celebrezze:

We have reviewed your filings and have the following comments. In our comments, we ask you to provide us with information to better understand your disclosure. Where it requests you to revise disclosure, the information you provide should show us what the revised disclosure will look like and identify the annual or quarterly filing, as applicable, in which you intend to first include it. If you do not believe that revised disclosure is necessary, explain the reason in your response. After reviewing the information provided, we may raise additional comments and/or request that you amend your filing.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Michael J. Celebrezze
LCA-Vision Inc.
May 27, 2010
Page 2

Form 10-K

Item 15. Exhibits, Financial Statement Schedules, page 59

1. We note that Alcon and AMO are your sole suppliers of excimer lasers and that you entered into five-year lease agreements with both entities in 2009. Please file each of the lease agreements as exhibits or provide a detailed analysis as to why the agreements are not required to be filed under Item 601(b)(10) of Regulation S-K.

DEF 14A

Compensation of Executive Officers, page 12

2. We note your disclosure in response to Item 402(s) of Regulation S-K. Please describe the process you undertook to reach the conclusion that disclosure is not necessary.

* * * *

Please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a cover letter that keys your responses to our comments and provide any requested information. Detailed letters greatly facilitate our review. Please file your letter on EDGAR under the form type label CORRESP.

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 all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. 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 connection with responding to our comments, please provide, in your letter, a 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.

Michael J. Celebrezze
LCA-Vision Inc.
May 27, 2010
Page 3

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comment on your filing.

Please contact Bryan Pitko at (202) 551-3203 with any questions. In this regard, please feel free to contact Suzanne Hayes at (202) 551-3675 or me at (202) 551-3715.

Sincerely,

Jeffrey Riedler
Assistant Director