

Mail Stop 6010

October 11, 2005

Joseph V. Gulfo, M.D.
President and Chief Financial Officer
Electro-Optical Sciences, Inc.
3 West Main Street, Suite 201
Irvington, NY 10533

Re: Electro-Optical Sciences, Inc.
Amendment No. 4 to Registration Statement on Form S-1
Filed September 27, 2005
File No. 333-125517

Dear Dr. Gulfo:

We have reviewed your filing and your responses to our comments in our letter dated October 4, 2005, and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

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 any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form S-1

Special Suitability for California Residents, page i

1. Given the last sentence of your response to comment 1, it is unclear why the last sentence on page i is appropriate. Please revise to clarify and add appropriate risk factors.

Business, page 44

Manufacturing, page 55

2. Please expand your response to comment 5 to tell us whether the current stage of negotiations indicates that there will be any material terms to the agreement.

Underwriting, page 87

3. Please reconcile your response to prior comment 6 with your disclosure on page 88 that:

* Underwriters and dealers may sell to online brokerage account holders;

* Underwriters may make Internet distributions; and

* There is information on "such websites" that is in addition to the prospectus in electronic format.

Exhibit 5.1

4. We reissue comment 9 which also dealt with the reference to previously adopted Board resolutions mentioned in the penultimate paragraph of the opinion.

* * *

As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with

marked
copies of the amendment to expedite our review. Please furnish a
cover letter with your amendment that keys your responses to our
comments and provides any requested information. Detailed cover
letters greatly facilitate our review. Please understand that we
may
have additional comments after reviewing your amendment and
responses
to our comments.

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 Act
of
1933 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.

You may contact Kevin Kuhar at (202) 551-3662 or Jay Webb at
(202) 551-3603 if you have questions regarding comments on the
financial statements and related matters. Please contact Adelaja
Heyliger at (202) 551-3636 or me at (202) 551-3800 with any other
questions.

Sincerely,

Russell Mancuso
Branch Chief

cc (via fax): Valerie A. Price, Esq., Dreir LLP 212.652.3789

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