

Mail Stop 6010

May 16, 2006

John J. Stuart, Jr.
Chief Financial Officer
Irvine Sensors Corporation
3001 Red Hill Avenue
Costa Mesa, California 92626

**Re: Irvine Sensors Corporation
Amendment No. 1 to Registration Statement on Form S-3
Filed April 26, 2006
File No. 333-131770**

Dear Mr. Stuart:

We have limited our review of your filing to those issues we have addressed in our 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 on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

General

1. Please refer to prior comment 1. Please obtain shareholder approval on the share issuances relating to the Optex transaction before requesting effectiveness of the registration statement. The securities cannot be registered for resale on Form S-3 until they are "outstanding," and that cannot occur until you receive shareholder approval.

Item 17. Undertakings

2. Please refer to prior comment 3. Please include the undertaking required by Item 512(a)(6) of Regulation S-K.

Exhibit 5.1

3. Please refer to prior comment 4. After you receive shareholder approval, please file a new legality opinion in a pre-effective amendment to eliminate the impermissible assumptions of the receipt of shareholder approval.

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.

You may contact Tom Jones at (202) 551-3602 or the undersigned at (202) 551-3800 if you have questions.

Sincerely,

Peggy Fisher
Assistant Director

cc: Ellen S. Bancroft, Esq.