

February 28, 2007

Via EDGAR and Overnight Courier

Ms. Cecilia D. Blye
Office of Global Security Risk
Division of Corporation Finance
United States Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

Re: IRIDEX Corporation
Form 10-K for the Fiscal Year Ended December 31, 2005
Filed April 3, 2006
Form 10-Q for the Quarterly Period Ended July 1, 2006
Filed December 22, 2006
File No. 0-27598

Dear Ms. Blye:

On behalf of IRIDEX Corporation (“we,” the “Company,” or “IRIDEX”), we submit this letter in response to comments from the staff of the Securities and Exchange Commission (the “Staff”) received by letter dated January 31, 2007, relating to the Company’s Form 10-K for the fiscal year ended December 31, 2005 (the “Form 10-K”) and the Company’s Form 10-Q for the quarterly period ended July 1, 2006 (the “Form 10-Q”).

In this letter, we have recited the comments from the Staff in italicized type and have followed each comment with the Company’s response. Capitalized terms used but not defined herein shall have the meanings ascribed thereto in the Form 10-K and Form 10-Q.

General

- 1. We note the reference on page 20 of your Form 10-Q to shipment into Sudan. We also note in the “Ophthalmology” section of your website that you list an entity that distributes your products into Syria. Sudan and Syria are countries identified by the U.S. as state sponsors of terrorism and subject to U.S. economic sanctions and export controls. Your Form 10-K does not include any information regarding business in Sudan and Syria. Please describe for us your past, current, and any anticipated operations in, and other contacts with, Sudan and Syria, whether*
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through direct or indirect arrangements. In your description, identify the specific products, technologies, and services that are distributed or otherwise provided into Sudan and Syria. Your response should describe any agreements, commercial arrangements or other contacts with the governments of Sudan and Syria or entities controlled by those governments.

Response:

Our business in Sudan and Syria is comprised of the delivery and sale of medical lasers, laser delivery devices and accessories exported for medical end use. Our sales into Sudan and Syria have historically all been conducted through third party distributors and these sales have not historically been quantitatively or qualitatively material to our business or operations. Other than the immaterial contact with the Ministry of Health of Sudan and other arrangements described below, we do not have any agreements, commercial arrangements or contacts with the governments of Sudan or Syria or, to our knowledge, with any entities controlled by those governments.

Transactions in Sudan

In our fiscal years 2004, 2005 and 2006 we received three purchase orders through our third party distributor for end-customers located in Sudan.

- In March 2005 we received a purchase order from Falcon (London) Ltd., an export trading company whose end user was Alwalidain Eye Hospital, State Ministry of Health, Khartoum, Sudan for an OcuLight GL Photocoagulator, 20 Gauge Endoprobes, a Laser Indirect Ophthalmoscope, a Slit Lamp Adapter and various accessory parts with an aggregate purchase price equal to \$33,420.00. Full prepayment of this order was received in March 2005 in advance of the products being shipped in the same month.
- In February 2006 we received a purchase order from Falcon (London) Ltd., whose end user was Al-Basar International Foundation, Makkah Eye Complex, for an OcuLight GLx Laser, a Slit Lamp and Slit Lamp Adapter, table tops, safety glasses, and a carrying case with an aggregate purchase price equal to \$34,550.00.
- In March 2006, the February 2006 purchase order was cancelled by Falcon (London) Ltd. and a new purchase order was placed for an OcuLight GLx Laser, a Slit Lamp and Slit Lamp Adapter, an OcuLight SLx Laser, a three-tier Slit Lamp Adapter, a cart, footswitch, motorized table, safety glasses, 20 gauge EndoProbes, and a Laser Indirect Ophthalmoscope with an aggregate purchase price equal to \$77,000.00. Prior to completing this sale, IRIDEX applied for and was granted an OFAC export license (SU-1900) for shipment to Sudan. The OFAC export license remains valid through June 1, 2007; however, IRIDEX required that Falcon (London) Ltd. pay for the products prior to shipment. This transaction was removed from our backlog following December 31, 2006 as no payment had yet been received. Payment for this order was received on February 1, 2007; however, IRIDEX has not shipped the products pending review of its export procedures.

In addition to these purchase orders, in 2006 IRIDEX received a request through Emtron, our Turkish distributor, to respond to a Ministry of Health bid in Sudan. However, IRIDEX's export license

application to OFAC in connection with this bid was denied because complete end-user contact information could not be obtained from Emtron or the Ministry of Health of Sudan. No further action has been taken on this bid.

Transactions in Syria

In our fiscal years 2004 and 2005 we did not transact any business in Syria. In fiscal year 2006 we received four purchase orders through our third party distributor for end-customers located in Syria.

- In January 2006 we received a purchase order for an OcuLight SLX Laser, a Laser Indirect Ophthalmoscope, 20 Gauge EndoProbes and eye safety filters and glasses with an aggregate purchase price equal to \$32,630.00. Full prepayment for this order was received in January 2006 prior to the order shipping in the same month.
- In February 2006 we received a purchase order for an OcuLight SLX Laser, a Laser Indirect Ophthalmoscope, 20 gauge EndoProbes, and eye safety filters and glasses with an aggregate purchase price equal to \$31,330.00. Full prepayment for this order was received on February 21, 2006 and the products relating to this order were shipped on February 23, 2006.
- In June 2006 we received a purchase order for an OcuLight SL Laser, a Laser Indirect Ophthalmoscope, 20 Gauge Endoprobes, a Diopexy probe and eye safety filters and glasses with an aggregate purchase price equal to \$23,520.00. Full prepayment for this order was received in July 2006 prior to shipment of the products in the same month.
- In November 2006 we received a purchase order for an OcuLight GLx Laser, a Slit Lamp and table top and a Slit Lamp Adapter with an aggregate purchase price equal to \$27,700.00. The products relating to this order were shipped in November 2006 and payment was received in January, 2007.

All four of the sales detailed above were conducted for Iridex through its distributor, Pioneers for Medical and Scientific Equipment located in Damascus, Syria.

Description of Products that we have sold into Syria and Sudan

OcuLight GL/GLx Green (532 nm) Laser

The OcuLight GL or GLx a semiconductor-based photocoagulator console is used in ophthalmology deliver visible (532nm) laser light. This laser offers 1.5 watts of power to the eye and is compatible with multiple delivery devices. These green laser consoles are indicated for use in treating retinal photocoagulation and laser trabeculoplasty.

OcuLight SL/SLx Infrared (810) Solid-State Laser

The OcuLight SL or SLx is an infrared photocoagulator console used to perform retinal photocoagulation and glaucoma procedures including transscleral applications. These consoles are available in two infrared output power ranges: OcuLight SL at 2 watts and the OcuLight SLx at 3 watts of power output.

Ophthalmic Delivery Devices

Laser Indirect Ophthalmic (LIO) — The indirect ophthalmoscope is designed to be worn on the physician's head and to be used in procedures to treat eye disorders. This product has both diagnostic and treatment functionality.

Slit Lamp Adapter (SLA) — These adapters allow physicians to convert a standard slit lamp into a therapeutic photocoagulator delivery system. These systems are available in a wide variety of spot diameters.

EndoProbe — The EndoProbe or laser probe is used for endophotocoagulation, a retinal treatment performed in a hospital operating room or surgery center. These sterile, disposable probes are available in different styles.

DioPexy Probe — This probe is a hand-held instrument which is used in procedures to treat retinal tears and breaks noninvasively through the sclera.

We have sold various components and accessories relating to the lasers and the laser delivery devices described above into Sudan and Syria, including: slit lamps, various styles of table tops for use in positioning the equipment, protective glasses for use by operators of our lasers and carrying cases for certain devices.

IRIDEX supplementally advises the Staff that in the course of our review of the Staff's comments we determined that we have made minimal exports of our medical products into Iran for medical end use purposes. We are investigating the facts surrounding these shipments and upon conclusion of this investigation IRIDEX will submit a Voluntary Self Disclosure to the Office of Export Enforcement, the Office of Foreign Asset Control and to the Department of State if it appears that an export violation has occurred and, to the extent material, will disclose any such violations in our future reports submitted pursuant to the Securities Exchange Act of 1934, as appropriate.

- 2. Please discuss the materiality of the activities and other contacts described in response to the foregoing comment, and whether they constitute a material investment risk for your security holders. You should address materiality in quantitative terms, including the approximate dollar amounts of any associated revenues, assets, and liabilities for the last three fiscal years and any subsequent period. Please also address materiality in terms of qualitative factors that a reasonable investor would deem important in making an investment decision, including the potential impact of corporate activities upon a company's reputation and share value.*
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For example, we note that Arizona and Louisiana have adopted legislation requiring their state retirement systems to prepare reports regarding state pension fund assets invested in, and/or permitting divestment of state pension fund assets from, companies that do business with countries identified as state sponsors of terrorism. The Missouri Investment Trust has established an equity fund for the investment of certain state-held monies that screens out stocks of companies that do business with U.S.-designated state sponsors of terrorism. The Pennsylvania legislature has adopted a resolution directing its Legislative Budget and Finance Committee to report annually to the General Assembly regarding state funds invested in companies that have ties to terrorist-sponsoring countries. California, Connecticut, Illinois, Maine, Oregon and New Jersey have adopted, and other states are considering, legislation prohibiting the investment of certain state assets in, and/or requiring the divestment of certain state assets from, companies that do business with Sudan. Harvard University, Stanford University, Yale University, the University of California and other academic institutions have adopted policies prohibiting investment in, and/or requiring divestment from, companies that do business with Sudan. Your materiality analysis should address the potential impact of the investor sentiment evidenced by such actions directed toward companies that have operations associated with Sudan and Syria.

Your qualitative materiality analysis also should address whether, and the extent to which, the Sudanese and Syrian governments, or entities controlled by those governments, have received cash or acted as intermediaries in connection with your operations.

Response:

The Company's sales into Sudan and Syria have not been material to our business or results of operations on either a quantitative or qualitative basis and we do not believe that these sales constitute a material investment risk for our investors. As discussed above, the aggregate value of the Company's sales into Sudan and Syria were \$0.0 in fiscal 2004, \$0.03M in fiscal 2005, and \$0.12M in fiscal 2006, which represented 0.0%, 0.09 % and 0.3% of our annual revenues in each of the respective fiscal years. No sales have been made into either Sudan or Syria during fiscal 2007. As all of our sales into Sudan and Syria were through third party distributors, IRIDEX does not have any assets located in either Sudan or Syria. To our knowledge, neither the Sudanese government nor the Syrian government have received cash or acted as intermediaries in connection with our operations in Sudan and Syria. In 2006 IRIDEX received a request through Emtron, our Turkish distributor, to respond to a Ministry of Health bid in Sudan, however, IRIDEX's export license application to OFAC in connection with this bid was denied because complete end user contact information could not be obtained from Emtron or Sudan and no further action has been taken on this bid. We do not believe that this minimal involvement with the government of Sudan is material to our business or that it constitutes a material investment risk for our investors. Due to the immateriality of our activities in Sudan and Syria from a financial standpoint and the fact that the products that we marketed and sold in these countries are medical products and that the ultimate end-users of such products are healthcare providers, we do not believe that our activities in Sudan and Syria should be deemed material to a reasonable investor.

3. *Please advise us whether, to the best of your knowledge, understanding, and belief, any of your products, technologies or services provided into Sudan or Syria have military uses, and describe possible military uses of which you are aware.*

Please also advise us whether, to the best of your knowledge, understanding, and belief, your products, technologies or services have been put to military use by Sudan or Syria, and describe any such use of which you are aware.

Response:

To the best of our knowledge, understanding, and belief (i) none of our products, technologies or services provided into Sudan or Syria have military uses and (ii) none of our products, technologies or services have been put to military use by Sudan or Syria.

In connection with IRIDEX's responses to the Staff's comments, we acknowledge that we are responsible for the adequacy and accuracy of the disclosure in our filings with the Securities and Exchange Commission, Staff comments or changes to disclosure in response to Staff comments do not foreclose the Securities and Exchange Commission from taking any action with respect to such filings, and we may not assert Staff comments as a defense in any proceeding initiated by the Securities and Exchange Commission or any person under the federal securities laws of the United States.

Please acknowledge receipt of this letter by stamping the enclosed duplicate of this letter and returning it to the undersigned in the envelope provided.

We would like to discuss these comments and responses at your earliest convenience. David J. Segre, Esq. and Todd C. Carpenter, Esq. of Wilson Sonsini Goodrich & Rosati, Professional Corporation can be reached at (650) 493-9300 and I may be reached at (650) 962-8848 ext. 3016.

Sincerely,

/s/ Meryl Rains

Meryl Rains
IRIDEX Corporation
Chief Financial Officer

cc: Barry Caldwell
Larry Tannenbaum
David J. Segre
Todd C. Carpenter