

Mail Stop 6010

July 10, 2007

By U.S. Mail and Facsimile to (613) 592-5470

Mr. Scott Milligan
Senior Vice President of Finance and Chief Financial Officer
Zarlink Semiconductor Inc.
400 March Road
Ottawa, Ontario, Canada, K2K 3H4

**RE: Zarlink Semiconductor Inc.
Form 20-F for the fiscal year ended March 31, 2007
File No. 1-8139**

Dear Mr. Milligan:

We have reviewed your filings and have the following comments. 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 future documents 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 20-F for the fiscal year ended March 31, 2007

General

1. On page 5, you state that in fiscal 2007 you had lower revenues from certain of your customers in the Middle East, particularly in Iran. Also, you state on your corporate website that you have a distributor in Iran. Iran is identified as a state sponsor of terrorism by the U.S. Department of State and is subject to U.S. economic sanctions and export controls. Please describe for us your past, current, and anticipated operations in, or other contacts with, Iran, whether through distributors or other direct or indirect arrangements. Your response should describe in reasonable detail the nature and scope of any products, technologies, equipment, components, and services you have provided into Iran, as well as any agreements, commercial arrangements or other contacts with the Iranian government or entities controlled by that government.
2. Please discuss the materiality of the operations and other contacts described in response to the foregoing comment, and whether they would 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 past three fiscal years concerning Iran. 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.

We note, for example, 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. Your materiality analysis should address the potential impact of the investor sentiment evidenced by such actions directed toward companies that have operations or business contacts associated with Iran.

Your qualitative materiality analysis also should address whether, and the extent to which the Iranian government, or persons or entities controlled by that government, receive cash or act as intermediaries in connection with your operations and contacts.

3. Please address the applicability to your Iran-related activities, including any direct or indirect payments to the Iranian government, of Section 5(b) of the Iran Sanctions Act of 1996, as modified by the Iran Freedom Support Act on September 30, 2006. In addition, address whether any of the products, technologies, equipment, components, or services you have directly or indirectly provided into Iran have military uses or implications. If so, identify and describe for us the types of products, technologies, equipment, components, and services involved, and explain their military uses and implications.
4. Please identify for us the other Middle East countries in which you have customers.

Consolidated Statements of Cash Flows, page 54

5. We note that you present your cash flows statement using the indirect method but that you have reconciled income (loss) from continuing operations to net cash provided by (used in) operating activities. Please revise future filings to begin the reconciliation with your net income (loss). Please refer to paragraphs 28 and 132 of SFAS 95.
6. In addition, we note the format used to present your cash flows from discontinued operations. Tell us whether there were any investing and financing cash flows from discontinued operations in the reported periods and, if so, where you have presented these amounts. We note, for example, a change in the fiscal 2005 amount of cash used for expenditures for fixed assets in later filings. Please refer to the Staff's views relating to presenting cash flows from discontinued operations in Joel Levine's speech at the December 2005 AICPA conference on SEC and PCAOB Current Developments and further guidance outlined at AICPA CPCA Alert Nos. 90 and 98.

Note 3 – Historical Stock-Based Compensation Adjustment, page 61

7. We note the disclosure that "in conjunction with the issuance of SAB 108, the company performed a voluntary review of its historical stock option grants..." That statement may be confusing to investors since SAB 108 did not specifically address stock option grants or errors related to stock option grants. With a view towards eliminating the confusing language in future filings, please explain to us how the guidance in SAB 108 triggered the company's review of its stock option dating practices. Contrast that trigger with the need for a review because of press reports beginning in April 2006 relating to options backdating issues at other public companies and the issuance of the September 19, 2006 letter from the Commission's Chief Accountant to Lawrence Salva, Chairman – Committee on

Corporate Reporting, FEI and Sam Ranzilla, Chairman – Center for Public Company for Public Company Audits Firms, AICPA concerning accounting for stock options in the historical financial statements of public companies.

8. In addition, tell us the approach management had previously applied in quantifying misstatements in your financial statements prior to SAB 108. Discuss in detail your conclusions that under that approach the errors in each reported period were immaterial, considering all quantitative and all relevant qualitative factors.

Exhibit 12.1 and 12.2

9. We note that the identification of the certifying individual at the beginning of the certification required by Exchange Act Rule 13a-14(a) also includes the title of the certifying individual. In future filings, the identification of the certifying individual at the beginning of the certification should be revised so as not to include the individual's title.

As appropriate, 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 provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your 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 Exchange Act of 1934 and that they have provided all information investors require for an informed 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 writing, 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

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- 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.

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 comments on your filing.

You may contact Eric Atallah, Staff Accountant at (202) 551-3663 or me at (202) 551-3671 regarding comments on the financial statements and related matters.

Sincerely,

Martin F. James
Senior Assistant Chief Accountant