



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

Mail Stop 6010

August 13, 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 30, 2007
File No. 1-8139**

Dear Mr. Milligan:

We have reviewed your letter dated July 31, 2007 and have the following 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 30, 2007

General

1. We note your response to comment 1 in our letter dated July 10, 2007. You state that your distributor has sold into Iran “legacy telecommunication networking integrated circuits that are designed into Private Branch Exchange (PBX) equipment.” Certain types of integrated circuits as well as private automatic branch exchanges are on the Commerce Control List (“CCL”) maintained by the Commerce Department’s Bureau of Industry and Security, and thus are controlled items to which the Export Administration Regulations apply. Please clarify for us whether your products or components thereof fall within the scope of the CCL. If they fall within the scope of the CCL, discuss for us the applicability of, and, to the extent applicable, your compliance with, U.S. export laws.

Consolidated Statements of Cash Flows, page 54

2. We note from your response to prior comment 6 that you believe that your presentation of the line item “Net cash used in discontinued operations from operating activities”, complies with the guidance issued in AICPA CPCAF Alert No. 90. Given that you presented investing cash flows from discontinued operations in fiscal 2005 within that line item it is unclear as to how your presentation complies with AICPA CPCAF Alert No. 90. Please revise future filings to comply with SFAS 95, which does not support aggregating investing and operating cash flows from discontinued operations in a single line item. Confirm that you will comply in future filings, when applicable.

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.

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

Mr. Scott Milligan
Zarlink Semiconductor Inc.
August 13, 2007
Page 3