



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

Mail Stop 6010

February 28, 2008

Ms. Ingrid Mittelstaedt
Chief Financial Officer
Rofin-Sinar Technologies, Inc.
40984 Concept Drive
Plymouth, MI 48170

**RE: Rofin-Sinar Technologies, Inc.
Form 10-K for the fiscal year ended September 30, 2007
File No. 0-21377**

Dear Ms. Mittelstaedt:

We have reviewed your filings 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 10-K for the fiscal year ended September 30, 2007

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, page 30

Currency Exchange Rate Fluctuations, page 34

1. We note that you are presenting net sales, gross profit and income from operations based on prior years' exchange rates. These amounts appear to be non-GAAP measures for which you should present all of the disclosures required by Item 10(e)(1)(i) of Regulation S-K for each non GAAP measure. Please revise future filings to remove the non-GAAP measures or to provide the required disclosures.

Item 13. Certain Relationships and Related Transactions and Director Independence, page 42

2. We note your disclosure in this section appears to be identical to your disclosure in Note 12 on page F-23 to your financial statements. In future filings where you provide the disclosure requested by Item 404(a) of Regulation S-K, please clearly identify all information as required by this Item with respect to such relationships, including the parties to the transactions. Please tell us whether the "minority shareholders" identified in paragraphs 2-5 and 8 are minority shareholders in the registrant or otherwise.
3. Please provide the disclosure requested under Item 404(b) of Regulation S-K in future filings.

Note 1 – Summary of Significant Accounting Policies, page F-8

(c) – Cash Equivalents and Short Term Investments, page F-10

4. We note that at September 30, 2007 you have classified \$109.8 million as short-term investments. Please address the following:
 - Revise future filings to provide any disclosures required by paragraphs 19-22 of SFAS 115.
 - Tell us the cost and fair value of auction rate securities you held at September 30, 2007.
 - Tell us and revise future filings to disclose how you determine the value of the underlying credit for your auction rate securities. In this regard, tell us what impact the recent uncertainties in the credit market have had on your portfolio.
 - Tell us whether you hold any auction rate securities for which auctions have been unsuccessful and if so, tell us what impact this has had on the liquidity of your portfolio.

(s) – Shipping and Handling Costs, page F-14

5. We note that revenue received from shipping and handling fees is reflected in net sales. Please tell us and revise future filings to also disclose your policy relating to shipping and handling costs. Refer to paragraph 6 of EITF 00-10.

Note 13 – Geographic Information, page F-24

6. Please revise future filings to include disclosure of long-lived assets by geographical area. In this regard, please note that the guidance in Question 22 of the FASB Staff Implementation Guidance on Applying FASB Statement 131 states that intangible assets should not be included in this disclosure.

Note 17 - Subsequent Events, page F-28

Share Split and Buyback Program, page F-28

7. We note that your Board of Directors approved a 2-for-1 for shareholders of record as of November 22, 2007. Given that the date of record for the stock split was prior to the release of your financial statements, it appears that this stock split should have been presented retroactively in your financial statements for the fiscal year ended September 30, 2007. Please revise future filings to retroactively present any stock splits and stock dividends effected after the date of the latest balance sheet presented, but before the release of the financial statements. For reference see SAB Topic 4C.

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:

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- 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
- 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) 551-3643 regarding comments on the financial statements and related matters. Please contact Jay Mumford, Staff Attorney at (202)-551-3637 or Peggy Fisher, Assistant Director, at (202) 551-3805 if you have questions on other comments. In this regard, do not hesitate to contact, Martin James, Senior Assistant Chief Accountant at (202) 551-3671 with any other questions.

Sincerely,

Kevin L. Vaughn
Branch Chief