



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-7010

Mail Stop 7010

March 28, 2008

Via U.S. mail and facsimile

Mr. Patrick M. Prevost
Chief Executive Officer
Cabot Corporation
Two Seaport Lane, Suite 1300
Boston, MA 02210

**RE: Form 10-K for the fiscal year ended September 30, 2007
File No. 001-05667**

Dear Mr. Prevost:

We have reviewed your filings and have the following comments. If you disagree with a comment, 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 or may not 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.

FORM 10-K FOR THE YEAR ENDED SEPTEMBER 30, 2007

General

1. Where a comment below requests additional disclosures or other revisions to be made, please show us in your supplemental response what the revisions will look like. These revisions should be included in your future filings, including your interim filings.

Business

Sales and Customers, page 8

2. Please identify the silicone and microelectronics customers who represent a material portion of the Metal Oxides business sales. Please also identify the four material capacitor customers mentioned on page 9. We note from your risk factor disclosure that the loss of any one or more of these customers could materially affect your business.

Legal Proceedings

Environmental Proceedings, page 20

3. Please either delete the statement in the third full paragraph on page 21 that you believe the claims are without merit or explain why you think they are without merit.

Other Proceedings

Respirator Liabilities, page 21

4. Please disclose the amount by which your total costs and payments have exceeded the amount you received from Aearo.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Fiscal Year 2007 compared to Fiscal Years 2006 and 2005 – By Business Segment, page 40

5. Your presentation of total segment operating profit before taxes (PBT) constitutes a non-GAAP measure when it appears outside of your segment footnote. Please revise your filing to clearly identify total segment PBT as a non-GAAP measure and provide a statement disclosing the reasons why management believes that the presentation of the non-GAAP financial measure provide useful information to investors regarding your results of operations. For additional guidance, refer to Item 10(e) of Regulation S-K and Question 21 of our Frequently Asked Questions Regarding the Use of Non-GAAP Financial Measures, which was released on June 13, 2003.
6. As a related matter, please revise your discussion on segment MD&A to address the business reasons for changes between periods in the certain items expense line item that you present in your segment footnote and in the table on page 41.

Consolidated Financial Statements

Note Q – Earnings Per Share, page 92

7. Please revise your filing to clarify whether the basic EPS adjustment to reduce weighted-average common shares outstanding for contingently issuable shares (3 million shares for each period presented) is intended to represent the effect of outstanding unvested restricted stock, vested restricted stock or both.

Note S – Commitments and Contingencies, page 96

8. Please disclose how you account for (a) step rent provisions and escalation clauses and (b) capital improvement funding and other lease concessions, which may be present in your leases. In addition, paragraph 5.n. of SFAS 13, as amended by SFAS 29, discusses how lease payments that depend on an existing index or rate, such as the consumer price index or the prime interest rate, should be initially included in your minimum lease payments. If, as we assume, each of these items is included in computing your minimum lease payments and the minimum lease payments are recognized on a straight-line basis over the minimum lease term, the note should so state. If our assumption is incorrect, please tell us how you considered the provisions in SFAS 13 and FTB 88-1 in reaching the conclusions you did regarding your accounting treatment.
9. We note your disclosure on page 34 that you are partially self-insured for certain third party liability, workers' compensation and employee health benefits in the United States and Canada. Please revise your filing here and on page 34 to disclose the extent to which you have excess loss insurance. Your revised disclosures should quantify the thresholds at which the excess loss insurance coverage would take effect for each risk (e.g. workers compensation, third party liability, etc) and should identify the risks for which you have no excess loss coverage.

* * * *

Please respond to these comments within 10 business days, or tell us when you will provide us with a response. Please provide us with a response letter that keys your responses to our comments and provides any requested information. Detailed letters greatly facilitate our review. Please furnish your response on EDGAR as a correspondence file. Please understand that we may have additional comments after reviewing your responses to our comments.

Mr. Patrick M. Prevost
Cabot Corporation
March 28, 2008
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We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings reviewed by the staff to be certain 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 their filings;
- 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 Errol Sanderson, Financial Analyst, at (202) 551-3746 or, in his absence, Jennifer Hardy, Legal Branch Chief, at (202) 551-3767 if you have any questions regarding legal matters. Please contact Lisa Haynes, Staff Accountant, at (202) 551-3424 or, in her absence, the undersigned at (202) 551-3769 if you have questions regarding comments on the financial statements and related matters.

Sincerely,

Rufus Decker
Accounting Branch Chief