



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 3030

March 10, 2009

VIA U.S. MAIL and FACSIMILE

Adrian T. Dillon
Chief Financial Officer
Agilent Technologies, Inc.
5301 Stevens Creek Blvd.
Santa Clara, California 95051

RE: Agilent Technologies, Inc.
Form 10-K for the fiscal year ended October 31, 2008
Filed December 19, 2008
Form 8-K dated February 17, 2009
File No. 001-15405

Dear Mr. Dillon:

We have reviewed your filing and have the following comments. We have limited our review of your filings to those issues we have addressed in our comments. Where indicated, we think you should revise your future filings 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 October 31, 2008

Critical Accounting Policies and Estimates, page 37

Valuation of Long-Lived Assets, page 39

1. We note that goodwill and total assets are \$646 million and 7.4 billion, respectively, as of October 31, 2008. Given the significance of goodwill to your assets, please tell us and expand future filings to disclose in more detail how you test goodwill for impairment, including the following:
 - The reporting unit level at which you test goodwill for impairment and your basis for that determination, including any changes to reporting units as a result of the changes in segments in fiscal year 2009;
 - A quantitative and qualitative description of the material assumptions used and a sensitivity analysis of those assumptions based upon reasonably possible changes;
 - Whether assumptions and methodologies for valuing goodwill in the current year have changed since the prior year highlighting the impact of any changes;
 - The indicators of potential impairment that might lead you to perform an interim goodwill impairment assessment;
 - If multiple approaches are used to value goodwill, include sufficient information to enable a reader to understand how each of the methods differ, the assumed benefits of a valuation prepared under each method, the weighting of each method, and why management selected these methods as being the most meaningful in preparing your goodwill analysis.
2. As a related matter, we see from the earnings release filed on February 17, 2009 that revenues and net income significantly declined in the first quarter of 2009, that you expect revenue will be down in the second quarter of fiscal 2009, and that you are undergoing significant restructuring activities and layoffs. In future filings please clarify how you considered the negative effects of the current economic environment in evaluating whether you should perform interim goodwill impairment testing.

Consolidated Financial Statements

Note 1. Overview and Summary of Significant Accounting Policies, page 65

Goodwill and Purchased Intangible Assets, page 67

3. Please tell us and expand future filings to make more detailed and specific accounting policy disclosure explaining how you identify and measure goodwill impairment. Discuss how your policy considers paragraphs 19 – 22 of SFAS 142

and the two-step impairment test, including how you measure fair value for purposes of this exercise. Please state the date that you perform your annual goodwill impairment test and disclose the results of the tests for the current annual period. In addition, please also expand to address the reporting unit concept and to disclose how you identified reporting units and how you allocated goodwill to those reporting units.

Form 8-K dated February 17, 2009

4. We see that you present “non-GAAP earnings of \$0.20 per share” in a bullet point under “Highlights” to the press release presented as an exhibit to the Form 8-K dated February 17, 2009. We also note that the most comparable measure determined according to GAAP is not presented with equal or greater prominence, as required by Item 10(e)(1)(i) of Regulation S-K. In future earnings releases please only provide non-GAAP financial measures to the extent that you have also provided a presentation, with equal or greater prominence, of the most directly comparable financial measures calculated and presented in accordance with GAAP.

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 with your response 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

Adrian T. Dillon
Agilent Technologies, Inc.
March 10, 2009
Page 4

- 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 Kristin Lochhead at (202) 551-3664 or me at (202) 551-3605 if you have questions. In this regard, please do not hesitate to contact Brian Cascio, at (202) 551-3676 with any other questions.

Sincerely,

Gary Todd
Reviewing Accountant