



DIVISION OF
CORPORATION FINANCE

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

July 27, 2012

Via E-mail

Mr. Robert M. McLaughlin
Chief Financial Officer
Airgas, Inc.
259 North Radnor-Chester Road, Suite 100
Radnor, Pennsylvania 19087

Re: Airgas, Inc.
Form 10-K for the Year Ended March 31, 2012
Filed May 29, 2012
Form 8-K
Filed May 3, 2012
File No. 1-9344

Dear Mr. McLaughlin:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by providing the requested information or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

Form 10-K for the Year Ended March 31, 2012

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, if applicable.

Management's Discussion and Analysis

Results of Operations, page 18

2. You estimate same-store sales growth based on a comparison of current period sales to prior period sales, adjusted for acquisitions and divestitures. The pro forma adjustments consist of adding acquired sales to, or subtracting sales of divested operations from, sales reported in the prior period. Please provide more detailed disclosures regarding how you compute same-store sales growth. For acquisitions, please disclose when acquisitions are first reflected in your computation. In regards to adding acquired sales to sales reported in the prior period, please help us understand how you determined it was appropriate to add sales in periods prior to the acquisition for purposes of this computation. Please also clarify how you reflect changes in the locations of stores in your computation, if applicable.

Liquidity and Capital Resources, page 31

3. Please enhance your liquidity disclosures to address the following:
 - Disclose the amount of foreign cash and short-term investments you have as compared to your total amount of cash and short-term investments as of the latest balance sheet date; and
 - Discuss the fact that if the foreign cash and short-term investments are needed for your operations in the U.S., you would be required to accrue and pay U.S. taxes to repatriate these funds but your intent is to permanently reinvest these foreign amounts outside the U.S. and your current plans do not demonstrate a need to repatriate the foreign amounts to fund your U.S. operations, if true.

Refer to Item 303(a)(1) of Regulation S-K, SEC Release 33-8350 Section IV and Financial Reporting Codification 501.06.a.

4. Please clearly disclose whether you are in compliance with all of the covenants you are subject to under the terms of your debt agreements.

Financial Statements

Notes to the Financial Statements

Note 7. Goodwill and Other Intangible Assets, page F-24

5. As of October 31, 2011, you had 18 reporting units in the Distribution business segment and six reporting units in the All Other Operations segment. Please tell us what your reporting units are and whether they are aggregated for purposes of goodwill impairment testing.

Note 21. Summary by Business Segment, page F-43

6. Please clearly disclose what your operating segments are and whether you have aggregated operating segments for purposes of determining your reportable segments. Refer to ASC 280-10-50-21(a). Please also tell us whether the operating realignment discussed on page F-45 had any impact on your determination of operation segments.
7. If you are aggregating operating segments to arrive at the Distribution reportable segment, please tell us how you determined that each of your operating segments have similar economic characteristics and meet each of the other criteria required by ASC 280-10-50-11 for aggregation into one reportable segment. Please provide us the sales, gross profit, and operating income information for each operating segment along with any additional key metrics used in your quantitative analysis for each of the last five fiscal years and each subsequent year and interim period for which you have budgeting information. Please ensure that you also show the dollar and percentage changes from period to period in your analysis. Please include detailed explanations for any apparent differences in economic characteristics and trends for a given operating segment when compared to another operating segment for a given period or over several periods. Explain why each of these differences would not be considered an indication of differences in economic characteristics between the operating segments and your basis for concluding that each difference is temporary. Refer to ASC 280-10-50-11, ASC 280-10-55-7A through 7C, and ASC 280-10-55-33 through 36.
8. Please separately present any amounts that are due to the elimination or reversal of transactions between reportable segments. Refer to ASC 280-10-50-31.

Form 8-K filed May 3, 2012

Exhibit 99.1

9. We remind you that Item 10(e)(1)(i)(a) of Regulation S-K states that you should not present non-GAAP financial measures with equal or greater prominence than the most directly comparable GAAP financial measures. Your earnings discussion for the fourth quarter of fiscal 2012 as well as the full year 2012 appears to place more prominence on certain non-GAAP financial measures. For example, you discuss adjusted operating margin without providing a discussion of the corresponding GAAP financial measure. In addition, your headings at the top of the exhibit place more prominence on adjusted diluted earnings per share amounts. Please revise. Refer to Instruction 1 to Item 2.02 of the Form 8-K.

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 the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. 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.

Mr. Robert M. McLaughlin
Airgas, Inc.
July 27, 2012
Page 4

In responding to our comments, please provide a written 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
- 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.

If you have any questions regarding these comments, please direct them to Nudrat Salik, Staff Accountant, at (202) 551-3692 or, in her absence, to the undersigned at (202) 551-3769.

Sincerely,

/s/ Nudrat Salik
for
Rufus Decker
Accounting Branch Chief