



Air Products and Chemicals Inc.
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Paul E. Huck
Sr. Vice President and
Chief Financial Officer

21 December 2011

Mr. John Hartz
Senior Assistant Chief Accountant
Securities and Exchange Commission
Division of Corporate Finance
Mail Stop 4631
100 F Street, N.E.
Washington, D.C. 20549

RE: Air Products and Chemicals, Inc.
Form 10-K: For the Year Ended 30 September 2010
File No. 1-4534

Dear Mr. Hartz:

In response to your letter of 17 December 2010, we provide the information below. Our responses have been numbered to correspond with the comments in your letter. The original comments, contained in your letter have been included in italics for reference during your review.

* * * * *

Comment 1 – Interest Rate Increases, page 11

Please revise in future filings to illustrate this risk by disclosing the impact of a 1% change in the interest rates.

Response:

A sensitivity analysis of a 100 basis point change in interest rates from the level at 30 September 2010 is included in Item 7A, Quantitative and Qualitative Disclosures about Market Risk, under the Interest Rate Risk section on page 42. In future filings, we will reference this analysis in the Risk Factors discussion as underlined below.

Revised Disclosure:

Interest Rate Increases—The Company’s earnings, cash flow, and financial position can be impacted by interest rate increases.

At 30 September 2010, the Company had total consolidated debt of \$4,128.3 million, of which \$468.5 million will mature in the next twelve months. The Company expects to continue to incur indebtedness to fund new projects and replace maturing debt. Although the Company actively manages its interest rate risk through the use of derivatives and diversified debt obligations, not all borrowings at variable rates are hedged, and new debt will be priced at market rates. If interest rates increase, the Company’s interest expense could increase significantly, affecting earnings and reducing cash flow available for working capital, capital expenditures, acquisitions, and other purposes. In addition, changes by any rating agency to the Company’s outlook or credit ratings could increase the Company’s cost of borrowing. For a more detailed discussion of interest rate risk, see Item 7A, below.

Comment 2 – Liquidity and Capital Resources, page 30

We note your discussion of your credit facilities on page 32. Please revise in future filings to disclose whether you were in compliance with all financial and any other affirmative and negative covenants under your debt agreements.

Response:

For all periods presented, the Company was in compliance with all of the financial and other covenants under its debt agreements. Disclosure that the Company is in compliance with all of its financial debt covenants is provided in Note 15, Debt, on page 73. The discussion in the Liquidity and Capital Resources, Financing Activities, Financing and Capital Structure section of Management's Discussion and Analysis will be revised in future filings as underlined below.

Revised Disclosure:

Financing and Capital Structure

(Excerpt)

In February 2010, the Company commenced a tender offer to acquire all outstanding common stock of Airgas as further discussed in Note 3, Airgas Transaction, to the consolidated financial statements. In connection with this tender offer, the Company has secured committed financing in the form of a \$6.7 billion term loan credit facility. Borrowings under this credit facility will be available beginning on the date of the consummation of the tender offer, which must occur no later than 4 February 2011. All borrowings under this credit facility will mature on the date that is one year from the consummation of the tender offer. The credit facility agreement contains one financial covenant, a maximum leverage ratio, and other affirmative and negative covenants, including restrictions on liens and certain subsidiary indebtedness. It also requires mandatory commitment reduction/prepayment for certain capital market transactions and asset dispositions. Fees incurred to secure this credit facility have been deferred and are being amortized over the term of the arrangement.

The Company has obtained the commitment of a number of commercial banks to lend money at market rates whenever needed. At 30 September 2009, the Company's total multicurrency committed credit facility amounted to \$1,450. On 8 July 2010, the Company replaced this facility with a new \$2,000 multicurrency committed credit facility maturing on 8 July 2013. Facility fees were modified to reflect current market rates. The Company has one financial covenant associated with this new credit facility. The covenant indicates that the ratio of total debt to earnings before interest, taxes, depreciation, and amortization (EBITDA) shall not exceed 3.0. This credit facility provides a source of liquidity and is used to support the issuance of commercial paper. No borrowings were outstanding under this commitment at the end of 2010. Additional commitments totaling \$518.7 are maintained by the Company's foreign subsidiaries, of which \$345.2 was borrowed and outstanding at 30 September 2010.

The Company is in compliance with all of the financial and other covenants under its debt agreements.

Comment 3 – CADE Decision, Page 80

As indicated in your prior letter dated February 3, 2010, please revise your disclosure in future filings to provide the reasonably possible range of loss related to this litigation or state that such an amount cannot be estimated. It would also be helpful to convert the Real into US Dollars. If the Real amount is intended to indicate a possible range of loss please clarify future disclosures.

If you believe that you cannot estimate a range of reasonably possible loss, please provide us with a more comprehensive discussion about this issue, in sufficient detail, so we can understand why such an estimate could not be made. Also, we remind you that it would normally be expected, taking into consideration the specific nature of a contingency, that the ability to estimate losses will increase with the passage of time.

Response:

FASB Accounting Standards Codification (ASC) 450-20-50-4 requires the disclosure of an unrecognized contingency including an estimate of the possible loss or range of loss or a statement that such an estimate cannot be made. The civil fine of R\$179.2 (approximately \$106 at 30 September 2010) imposed by the Brazilian Administrative Council for Economic Defense (CADE) plus interest accrued thereon until final disposition of the proceedings is the Company's estimate of the maximum possible loss. In future filings, we will revise the disclosure to clarify this and also include the conversion of the Real amount into US dollars as underlined below.

Revised Disclosure:

17. COMMITMENTS AND CONTINGENCIES

Litigation

The Company is involved in various legal proceedings, including competition, environmental, health, safety, product liability, and insurance matters. In September 2010, the Brazilian Administrative Council for Economic Defense (CADE) issued a decision against the Company's Brazilian subsidiary, Air Products Brasil Ltda., and several other Brazilian industrial gas companies for alleged anticompetitive activities. CADE imposed a civil fine of R\$179.2 (approximately \$106 at 30 September 2010) on Air Products Brasil Ltda. This fine was based on a recommendation by a unit of the Brazilian Ministry of Justice whose investigation began in 2003 alleging violation of competition laws with respect to the sale of industrial and medical gases. The fines are based on a percentage of the Company's total revenue in Brazil in 2003.

The Company has denied the allegations made by the authorities and filed an appeal in October 2010 to the Brazilian courts. Certain of the Company's defenses, if successful, could result in the matter being dismissed with no fine against the Company. The Company, with advice of its outside legal counsel, has assessed the status of this matter and has concluded that although an adverse final judgment after exhausting all appeals is reasonably possible, such a judgment is not probable. As a result, no provision has been made in the consolidated financial statements. The Company estimates the maximum possible loss to be the full amount of the fine of R\$179.2 (approximately \$106 at 30 September 2010) plus interest accrued thereon until final disposition of the proceedings.

The Company is required to provide security in order to suspend execution of the judgment during the appeal process, during which time interest will accrue on the fine. The security could be in the form of a bank guarantee or in other forms which the courts deem acceptable. The security is only collectible by the courts in the event the Company is not successful in its appeal and does not timely pay the fine. The form of security to be provided by the Company has not been finally determined.

Comment 4 – Item 9A – Controls and Procedures, page 95

We note the conclusion of your Chief Executive Officer and Chief Financial Officer that your disclosure controls and procedures “have been effective”. Please be advised that the conclusion must indicate whether your disclosure controls and procedures were effective as of the end of the period covered by the report. Please confirm this to us and revise accordingly in future filings. Refer to Item 307 of Regulation S-K.

Response:

The Company confirms the conclusion of the Chief Executive Officer and Chief Financial Officer that the design and operation of the Company's disclosure controls and procedures have been effective as of the end of the annual period covered by this report (30 September 2010). In future filings, we will revise the Controls and Procedures disclosure in Item 9A as underlined below.

Revised Disclosure:

ITEM 9A. CONTROLS AND PROCEDURES

Under the supervision of the Chief Executive Officer and Chief Financial Officer, the Company's management conducted an evaluation of the effectiveness of the design and operation of the Company's disclosure controls and procedures as of 30 September 2010. Based on that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that, as of the end of the annual period covered by this report, the design and operation of its disclosure controls and procedures have been effective. There has been no change in the Company's internal control over financial reporting (as that term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) as of 30 September 2010 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

Management's Report on Internal Control Over Financial Reporting is provided under Item 8 appearing above. The report of KPMG LLP, the Company's independent registered public accounting firm, regarding the Company's internal control over financial reporting, is also provided under Item 8 appearing above.

In connection with this response, management acknowledges 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 Securities and Exchange Commission from taking any action with respect to the filing; and
- the Company may not assert staff comments as a defense in any proceedings initiated by the Securities and Exchange Commission or any person under the federal securities laws of the United States

Should the staff require any additional information, please contact myself at 610-481-7932.

Sincerely,



Paul E. Huck
Sr. Vice President and Chief Financial Officer