

8 March 2007

Mr. Rufus Decker
Accounting Branch Chief
Securities and Exchange Commission
Division of Corporate Finance
Mail Stop 7010
100 F Street, N.E.
Washington, D.C. 20549

RE: Air Products and Chemicals, Inc.
Form 10-K: For the Year Ended 30 September 2006
Form 10-Q: For the Quarterly Period Ended 31 December 2006

Dear Mr. Decker,

In response to your letter of 2 March 2007, we provide the information below, which should not be deemed "filed" with the Commission. Our responses have been numbered to correspond with the comments in your letter. The original comments, contained in your letter of 2 March 2007, have been included in italics for reference during your review.

Comment 1 — General

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.

Response:

In future filings, we will make the revisions described in our responses to your comments 2 through 4 as detailed below.

Comment 2 — Note 9. Plant and Equipment, page 62

We note your response to prior comment 12. You will provide additional disclosures regarding the useful lives of your production facilities by segment. Please consider also providing the corresponding amount of production facilities recorded by segment to make this disclosure more meaningful. Please also disclose the useful lives of your distribution equipment.

Response:

In future filings, we will expand the table within Note 9 to list the amount of production facilities by segment. In the footnote disclosing the useful lives for depreciation, we will add the following sentence: For distribution equipment, the estimated useful life ranges between 2 to 25 years, primarily 10 years.

Comment 3 — Note 19. Commitments and Contingencies, Environmental, page 73

We note your response to prior comment 14. You state that certain of the disclosures previously requested and required by SAB Topic 5:Y have been provided in your critical accounting policies. Please provide these disclosures in the notes to your financial statements. Please also provide disclosures in Note 19 regarding the Pace Facility, which should include the amounts accrued, reasonably likely losses, and the current stage of the investigation and/or remediation.

In future filings, we shall revise the environmental discussion in Note 1 and Note 19 to include the information required by SAB Topic 5:Y and disclosures requested above related to the Pace facility. Refer to the Attachment which illustrates these revised Notes.

Comment 4 — General


Please address the above comments in your interim filings as well.

Response:

We will consider all of the above comments in our future interim filings.

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

Sincerely,

 (-s- PAUL E. HUCK)
Paul E. Huck
Vice President and Chief Financial Officer

Attachment

ATTACHMENT

In future filings, we shall revise the environmental discussion in Note 1 and Note 19 to include the information required by SAB Topic 5:Y and disclosures requested related to the Pace facility, as follows:

Note 1 — Major Accounting Policies — Environmental Expenditures

Accruals for environmental loss contingencies are recorded when it is probable that a liability has been incurred and the amount of loss can be reasonably estimated. Remediation costs are capitalized if the costs improve the company's property as compared with the condition of the property when originally constructed or acquired, or if the costs prevent environmental contamination from future operations. The company expenses environmental costs related to existing conditions resulting from past or current operations and from which no current or future benefit is discernible.

The measurement of environmental liabilities is based on an evaluation of currently available information with respect to each individual site and considers factors such as existing technology, presently enacted laws and regulations, and prior experience in remediation of contaminated sites. An environmental liability related to cleanup of a contaminated site might include, for example, a provision for one or more of the following types of costs: site investigation and testing costs, cleanup costs, costs related to soil and water contamination resulting from tank ruptures, post remediation monitoring costs, and outside legal fees. These liabilities include costs related to other potentially responsible parties to the extent that the company has reason to believe such parties will not fully pay their proportionate share. They also do not take into account any claims for recoveries from insurance or other parties and are not discounted.

As assessments and remediation progress at individual sites, the amount of projected cost is reviewed periodically, and the liability is adjusted to reflect additional technical and legal information that becomes available. Management has a well-established process in place to identify and monitor the company's environmental exposures. An environmental accrual analysis is prepared and maintained that lists all environmental loss contingencies, even where an accrual has not been established. This analysis assists in monitoring the company's overall environmental exposure and serves as a tool to facilitate ongoing communication among the company's technical experts, environmental managers, environmental lawyers, and financial management to ensure that required accruals are recorded and potential exposures disclosed.

Actual costs to be incurred at identified sites in future periods may vary from the estimates, given inherent uncertainties in evaluating environmental exposures. Refer to Note 19 for additional information on the company's environmental loss contingencies.

The accruals for environmental liabilities are reflected in the consolidated balance sheet, primarily as part of other noncurrent liabilities, and will be paid over a period of up to 30 years.

Note 19 — Commitments and Contingencies — Environmental

In the normal course of business, the company is involved in legal proceedings under the federal Superfund law, similar state environmental laws, and RCRA relating to the designation of certain sites for investigation or remediation. Presently, there are approximately 32 sites on which a final settlement has not been reached where the company, along with others, has been designated a potentially responsible party by the Environmental Protection Agency (EPA) or is otherwise engaged in investigation or remediation. In addition, the company is also involved in cleanup activities at certain of its manufacturing sites. The company continually monitors these sites for which it has environmental exposure.

The company has accrued for environmental loss contingencies consistent with the policy set forth in Note 1. The company estimates the exposure for environmental contingencies to range from \$52 to a reasonably possible upper exposure of \$70. The consolidated balance sheet at 30 September 2006 includes an accrual of \$52.4, primarily as part of other noncurrent liabilities. The environmental liabilities will be paid over a period of up to 30 years.

Actual costs to be incurred at identified sites in future periods may vary from the estimates, given inherent uncertainties in evaluating environmental exposures. Using reasonably possible alternative assumptions of the exposure level could result in an increase to the environmental accrual. Due to the inherent uncertainties related to environmental exposures, a significant increase to the reasonably possible upper exposure level could occur if a new site was designated, the scope of remediation was increased, a different remediation alternative was identified, or a significant increase in the company's proportionate share occurred. While the company does not expect that any sums it may have to pay in connection with environmental exposures would have a materially adverse effect on its consolidated financial position or net cash flows, a future charge for any damage award could have a significant impact on the company's net income in the period in which it is recorded.

At 30 September 2006, \$42.0 of the \$52.4 environmental accrual was related to the Pace, Florida, facility. In the fourth quarter of 2006, the company sold its Amines business, which included operations at Pace, and recognized a liability for retained environmental obligations associated with remediation activities at Pace. The company is required by the Florida Department of Environmental Protection (FDEP) to continue its remediation efforts in order for the buyer of the Amines business to continue to operate the Amines facility at Pace. As of 30 September 2006, the company estimated that it would take an additional 20 years to complete the groundwater remediation and the costs through completion were estimated to range from \$42 to \$50 million. As no amount within the range was a better estimate than another, the company recognized a pretax expense in the fourth quarter of 2006 of \$42.0 million as a component of income from discontinued operations and recorded an environmental accrual of \$42.0 in continuing operations on the consolidated balance sheet.

The company has implemented many of the remedial corrective measures at the Pace, Florida, facility required under 1995 Consent Orders issued by the FDEP and the United States EPA. Contaminated soils have been bioremediated and the treated soils have been secured in a lined onsite disposal cell. Several groundwater recovery systems have been installed to contain and remove contamination from groundwater. In 2006, the company conducted an extensive assessment of the site to determine how well existing measures are working, what additional corrective measures may be needed, and whether newer remediation technologies that were not available in the 1990's might be suitable to more quickly and effectively remove groundwater contaminants. Based on our assessment results, we have identified potential new approaches to accelerate the removal of contaminants and will conduct pilot tests to determine their feasibility and effectiveness.