

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

FORM 10-Q

(Mark One)

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended 31 March 2011

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission file number 1-4534

AIR PRODUCTS AND CHEMICALS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction of Incorporation or Organization)

23-1274455
(I.R.S. Employer Identification No.)

7201 Hamilton Boulevard, Allentown, Pennsylvania
(Address of Principal Executive Offices)

18195-1501
(Zip Code)

610-481-4911
(Registrant's Telephone Number, Including Area Code)

Not Applicable
(Former Name, Former Address and Former Fiscal Year, if Changed Since Last Report)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company
(Do not check if a smaller reporting company)

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). YES NO

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	Outstanding at 25 April 2011
Common Stock, \$1 par value	211,896,649

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CONSOLIDATED BALANCE SHEETS
(Unaudited)**

	31 March 2011	30 September 2010
(Millions of dollars, except for share data)		
Assets		
Current Assets		
Cash and cash items	\$ 270.3	\$ 374.3
Trade receivables, less allowances for doubtful accounts	1,606.1	1,481.9
Inventories	597.2	571.6
Contracts in progress, less progress billings	123.0	163.6
Prepaid expenses	112.6	70.3
Other receivables and current assets	267.3	372.1
Total Current Assets	2,976.5	3,033.8
Investment in Net Assets of and Advances to Equity Affiliates	979.3	912.8
Plant and Equipment, at cost	17,119.8	16,309.7
Less: Accumulated depreciation	9,758.0	9,258.4
Plant and Equipment, net	7,361.8	7,051.3
Goodwill	945.6	914.6
Intangible Assets, net	288.7	285.7
Noncurrent Capital Lease Receivables	882.4	770.4
Other Noncurrent Assets	386.4	537.3
Total Assets	\$ 13,820.7	\$ 13,505.9
Liabilities and Equity		
Current Liabilities		
Payables and accrued liabilities	\$ 1,460.8	\$ 1,702.0
Accrued income taxes	66.4	73.6
Short-term borrowings	662.1	286.0
Current portion of long-term debt	22.0	182.5
Total Current Liabilities	2,211.3	2,244.1
Long-Term Debt	3,711.8	3,659.8
Other Noncurrent Liabilities	1,492.2	1,569.3
Deferred Income Taxes	406.2	335.1
Total Liabilities	7,821.5	7,808.3
Commitments and Contingencies – See Note 10		
Air Products Shareholders' Equity		
Common stock (par value \$1 per share; 2011 and 2010 – 249,455,584 shares)	249.4	249.4
Capital in excess of par value	793.7	802.2
Retained earnings	8,195.2	7,852.2
Accumulated other comprehensive income (loss)	(982.2)	(1,159.4)
Treasury stock, at cost (2011 – 37,558,935 shares; 2010 – 35,652,719 shares)	(2,430.9)	(2,197.5)
Total Air Products Shareholders' Equity	5,825.2	5,546.9
Noncontrolling Interests	174.0	150.7
Total Equity	5,999.2	5,697.6
Total Liabilities and Equity	\$ 13,820.7	\$ 13,505.9

The accompanying notes are an integral part of these statements.

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED INCOME STATEMENTS
(Unaudited)

(Millions of dollars, except for share data)	Three Months Ended 31 March		Six Months Ended 31 March	
	2011	2010	2011	2010
Sales	\$ 2,501.3	\$ 2,249.0	\$ 4,893.0	\$ 4,422.5
Cost of sales	1,802.5	1,628.7	3,523.0	3,197.3
Selling and administrative	259.4	240.4	504.0	484.5
Research and development	27.9	26.3	57.1	53.5
Net loss on Airgas transaction	5.0	23.4	48.5	23.4
Other income, net	13.0	10.4	19.7	21.8
Operating Income	419.5	340.6	780.1	685.6
Equity affiliates' income	31.7	32.2	59.5	59.1
Interest expense	29.4	29.5	60.4	61.1
Income before Taxes	421.8	343.3	779.2	683.6
Income tax provision	110.3	84.9	191.8	168.4
Net Income	311.5	258.4	587.4	515.2
Less: Net Income Attributable to Noncontrolling Interests	7.2	6.4	14.5	11.4
Net Income Attributable to Air Products	\$ 304.3	\$ 252.0	\$ 572.9	\$ 503.8
Basic Earnings Per Common Share Attributable to Air Products	\$ 1.42	\$ 1.19	\$ 2.68	\$ 2.38
Diluted Earnings Per Common Share Attributable to Air Products	\$ 1.39	\$ 1.16	\$ 2.62	\$ 2.32
Weighted Average of Common Shares Outstanding (in millions)	213.8	212.1	214.0	211.9
Weighted Average of Common Shares Outstanding Assuming Dilution (in millions)	218.8	216.9	219.0	217.0
Dividends Declared Per Common Share – Cash	\$.58	\$.49	\$ 1.07	\$.94

The accompanying notes are an integral part of these statements.

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED COMPREHENSIVE INCOME STATEMENTS
(Unaudited)

(Millions of dollars)	Three Months Ended 31 March	
	2011	2010
Net Income	\$ 311.5	\$ 258.4
Other Comprehensive Income, net of tax:		
Translation adjustments, net of tax (benefit) of \$(34.1) and \$47.5	116.4	34.4
Net gain (loss) on derivatives, net of tax (benefit) of \$5.3 and \$(3.7)	8.6	(6.9)
Unrealized holding gain on available-for-sale securities, net of tax (benefit) of \$(.1) and \$9.5	.6	16.4
Reclassification adjustments:		
Derivatives, net of tax (benefit) of \$(1.2) and \$2.8	(1.6)	5.3
Available-for-sale securities, net of tax (benefit) of \$(9.2)	(15.9)	—
Pension and postretirement benefits, net of tax (benefit) of \$8.8 and \$6.1	17.1	11.3
Total Other Comprehensive Income	125.2	60.5
Comprehensive Income	436.7	318.9
Comprehensive Income Attributable to Noncontrolling Interests	7.3	6.1
Comprehensive Income Attributable to Air Products	\$ 429.4	\$ 312.8

(Millions of dollars)	Six Months Ended 31 March	
	2011	2010
Net Income	\$ 587.4	\$ 515.2
Other Comprehensive Income, net of tax:		
Translation adjustments, net of tax (benefit) of \$(20.1) and \$56.6	164.4	69.3
Net gain (loss) on derivatives, net of tax (benefit) of \$1.3 and \$(4.8)	2.4	(9.3)
Unrealized holding gain (loss) on available-for-sale securities, net of tax (benefit) of \$(3.3) and \$9.5	(4.6)	16.5
Reclassification adjustments:		
Derivatives, net of tax (benefit) of \$3.0 and \$3.7	5.4	7.8
Available-for-sale securities, net of tax (benefit) of \$(9.3)	(16.1)	—
Pension and postretirement benefits, net of tax (benefit) of \$17.4 and \$12.6	33.6	23.7
Total Other Comprehensive Income	185.1	108.0
Comprehensive Income	772.5	623.2
Comprehensive Income Attributable to Noncontrolling Interests	22.4	12.0
Comprehensive Income Attributable to Air Products	\$ 750.1	\$ 611.2

The accompanying notes are an integral part of these statements.

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Unaudited)

(Millions of dollars)	Six Months Ended 31 March	
	2011	2010
Operating Activities		
Net Income	\$ 587.4	\$ 515.2
Less: Net income attributable to noncontrolling interests	14.5	11.4
Net income attributable to Air Products	\$ 572.9	\$ 503.8
Adjustments to reconcile income to cash provided by operating activities:		
Depreciation and amortization	435.1	434.4
Deferred income taxes	62.1	133.2
Undistributed earnings of unconsolidated affiliates	(7.7)	(29.6)
(Gain) loss on sale of assets and investments	(6.1)	(1.4)
Share-based compensation	21.9	22.7
Noncurrent capital lease receivables	(98.4)	(71.0)
Net loss on Airgas transaction	48.5	23.4
Payment of acquisition-related costs	(153.8)	(2.4)
Other adjustments	51.7	39.0
Working capital changes that provided (used) cash, excluding effects of acquisitions and divestitures:		
Trade receivables	(82.0)	(129.9)
Inventories	(15.2)	(3.9)
Contracts in progress, less progress billings	42.6	17.3
Other receivables	11.0	(10.9)
Payables and accrued liabilities	(233.9)	(332.4)
Other working capital	(22.0)	(49.6)
Cash Provided by Operating Activities	626.7	542.7
Investing Activities		
Additions to plant and equipment	(612.7)	(516.9)
Acquisitions, less cash acquired	—	(34.9)
Investment in and advances to unconsolidated affiliates	(24.2)	(4.5)
Investment in Airgas stock	—	(69.6)
Proceeds from sale of Airgas stock	94.7	—
Proceeds from sale of assets and investments	51.3	22.0
Change in restricted cash	10.4	25.2
Cash Used for Investing Activities	(480.5)	(578.7)
Financing Activities		
Long-term debt proceeds	43.0	67.4
Payments on long-term debt	(172.1)	(83.0)
Net increase (decrease) in commercial paper and short-term borrowings	341.3	(55.6)
Dividends paid to shareholders	(210.1)	(190.5)
Purchase of treasury stock	(350.0)	—
Proceeds from stock option exercises	72.6	35.4
Excess tax benefit from share-based compensation	18.6	9.7
Other financing activities	.8	(2.5)
Cash Used for Financing Activities	(255.9)	(219.1)
Effect of Exchange Rate Changes on Cash	5.7	(2.2)
Decrease in Cash and Cash Items	(104.0)	(257.3)
Cash and Cash Items – Beginning of Year	374.3	488.2
Cash and Cash Items – End of Period	\$ 270.3	\$ 230.9
Supplemental Cash Flow Information		
Significant noncash transaction:		
Short-term borrowings associated with SAGA acquisition	\$ —	\$ 60.6

The accompanying notes are an integral part of these statements.

AIR PRODUCTS AND CHEMICALS, INC. and Subsidiaries
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(Millions of dollars unless otherwise indicated, except for share data)

1. BASIS OF PRESENTATION AND MAJOR ACCOUNTING POLICIES

Refer to our 2010 Form 10-K for a description of major accounting policies. There have been no material changes to these accounting policies during the first six months of 2011. Beginning in fiscal year 2011, we moved from a lattice-based option valuation model to a Black Scholes model to value stock option awards. The change in valuation models was not significant to our consolidated financial statements. Refer to Note 11, Share-Based Compensation, for further details on this change in accounting estimate.

The consolidated financial statements of Air Products and Chemicals, Inc. and its subsidiaries (“we”, “our”, “us”, the “Company”, “Air Products”, or “registrant”) included herein have been prepared by us, without audit, pursuant to the rules and regulations of the Securities and Exchange Commission (SEC). Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. generally accepted accounting principles have been condensed or omitted pursuant to such rules and regulations. In our opinion, the accompanying statements reflect adjustments necessary to present fairly the financial position, results of operations, and cash flows for those periods indicated, and contain adequate disclosure to make the information presented not misleading. Adjustments included herein are of a normal, recurring nature unless otherwise disclosed in the Notes. The interim results for the periods indicated herein, however, do not reflect certain adjustments, such as the valuation of inventories on the LIFO cost basis, which can only be finally determined on an annual basis. The consolidated financial statements and related Notes included herein should be read in conjunction with the financial statements and Notes thereto included in our latest Form 10-K in order to fully understand the basis of presentation. Results of operations for interim periods are not necessarily indicative of the results of operations for a full year.

2. NEW ACCOUNTING GUIDANCE

Accounting Guidance Implemented

CONSOLIDATION OF VARIABLE INTEREST ENTITIES

In June 2009, the FASB issued authoritative guidance that amends previous guidance for determining whether an entity is a variable interest entity (VIE). It requires an enterprise to perform an analysis to determine whether the company’s variable interests give it a controlling financial interest in a VIE. A company would be required to assess whether it has an implicit financial responsibility to ensure that a VIE operates as designed when determining whether it has the power to direct the activities of the VIE that most significantly impact the entity’s economic performance. In addition, ongoing reassessments of whether an enterprise is the primary beneficiary of a VIE are required. This guidance was effective for us on 1 October 2010. The adoption of this guidance did not have a material impact on our consolidated financial statements.

MULTIPLE-DELIVERABLE REVENUE ARRANGEMENTS

In October 2009, the FASB issued authoritative guidance on multiple-deliverable revenue arrangements. This new guidance amends the existing criteria for separating consideration received in multiple-deliverable arrangements and requires that arrangement consideration be allocated at the inception of the arrangement to all deliverables based on their relative selling price. The guidance establishes a hierarchy for determining the selling price of a deliverable which is based on vendor-specific objective evidence, third-party evidence, or management estimates. Expanded disclosures related to multiple-deliverable revenue arrangements are also required. This guidance was effective for us on 1 October 2010. Upon adoption, the guidance was applied prospectively from the beginning of the fiscal year for new or materially modified arrangements. The adoption of this guidance did not have a material impact on our consolidated financial statements.

3. AIRGAS TRANSACTION

In February 2010, we commenced a tender offer to acquire all the outstanding common stock of Airgas, Inc. (Airgas), including the associated preferred stock purchase rights, for \$60.00 per share in cash, less any required withholding tax. The offer was subject to certain terms and conditions set forth in the Offer to Purchase dated 11 February 2010, as amended, including Airgas’ redemption of the preferred stock purchase rights or such rights otherwise being inapplicable to our purchase of Airgas stock. Airgas, a Delaware company, is the largest U.S. distributor of industrial, medical, and specialty gases, and hard goods. On 9 December 2010, we increased the value of our tender offer to \$70.00 per share. At this price, the

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total value of the transaction would have been approximately \$7.8 billion, including \$6.1 billion of equity and \$1.7 billion of assumed debt. Based on a decision by the Delaware Chancery Court to uphold the decision of Airgas' Board of Directors to retain the preferred stock purchase rights, we withdrew our offer on 15 February 2011.

In connection with the tender offer, we had secured committed financing in the form of a \$6.7 billion term loan credit facility. Refer to Note 15, Debt, in our 2010 Form 10-K for additional information on this credit facility which would have expired 4 February 2011. On 3 February 2011, we entered into an amended and restated credit agreement providing for an amended \$6.7 billion term loan credit facility with a maturity date of 4 June 2011. The amended credit facility agreement contained the same covenants as the original agreement: one financial covenant, a maximum leverage ratio, and other affirmative and negative covenants, including restrictions on liens and certain subsidiary indebtedness. No additional underwriting fees were incurred in relation to the amended agreement. On 16 February 2011, in connection with the termination of the offer to purchase all outstanding shares of common stock of Airgas, the credit facility was terminated. No early termination penalties were incurred and all fees previously accrued and due under the credit facility were paid as of the date of termination.

Prior to the tender offer, we purchased approximately 1.5 million shares of Airgas stock for a total cost of \$69.6. This amount was recorded as an available-for-sale investment within other noncurrent assets on the consolidated balance sheet. On 16 February 2011, we sold the 1.5 million shares of Airgas stock for total proceeds of \$94.7 and recognized a gain of \$25.1 (\$15.9 after-tax, or \$.07 per share).

For the three and six months ended 31 March 2011, a net loss of \$5.0 (\$4.4 after-tax, or \$.02 per share) and \$48.5 (\$31.6 after-tax, or \$.14 per share), respectively, was recognized related to this transaction. These amounts are reflected separately on the consolidated income statement within "Net loss on Airgas transaction" and include amortization of the fees related to the term loan credit facility, the gain on the sale of Airgas stock, and other acquisition-related costs. For the year ended 30 September 2010, \$96.0 (\$60.1 after-tax, or \$.28 per share) in expense was recognized in relation to this transaction. For the six months ended 31 March 2011 and 2010, cash payments for the acquisition-related costs were \$153.8 and \$2.4, respectively. These payments are classified as operating activities on the consolidated statements of cash flows.

4. BUSINESS COMBINATIONS

In the second quarter of 2010, we entered into agreements that enabled us to acquire 100% of the outstanding shares of the French SAGA group (SAGA), which consists of SAGA, SAGA Medical, and SAGA Technologies. SAGA is an independent industrial gas provider in France with packaged gases, liquid/bulk, and medical businesses. The acquisition of SAGA supports the Merchant Gases segment's integration strategy by enhancing its market position in southwest and central France. SAGA revenues for calendar year 2009 were approximately €25 million, or \$35.

Under the terms of these agreements, we purchased 51.47% of the shares of SAGA on 1 March 2010 for €34.5 million or \$47.2 (\$25.0 net of cash acquired of \$22.2). The remaining shares were purchased on 30 November 2010 for a fixed price of €44.8 million, or approximately \$62. At 30 September 2010, this structure was accounted for as a financing of the purchase of the remaining shares and reported within short-term borrowings on the consolidated balance sheet.

5. INVENTORIES

The components of inventories are as follows:

	31 March 2011	30 September 2010
Inventories at FIFO Cost		
Finished goods	\$ 435.2	\$ 405.3
Work in process	30.7	29.3
Raw materials and supplies	207.9	208.2
	673.8	642.8
Less: Excess of FIFO cost over LIFO cost	(76.6)	(71.2)
	\$ 597.2	\$ 571.6

FIFO cost approximates replacement cost. Our inventories have a high turnover, and as a result, there is little difference between the original cost of an item and its current replacement cost.

6. GOODWILL

Changes to the carrying amount of consolidated goodwill by segment for the six months ended 31 March 2011 are as follows:

	30 September 2010	Acquisitions and Adjustments	Currency Translation	31 March 2011
Merchant Gases	\$ 595.7	\$ —	\$ 23.0	\$ 618.7
Tonnage Gases	15.5	—	.5	16.0
Electronics and Performance Materials	303.4	—	7.5	310.9
	\$ 914.6	\$ —	\$ 31.0	\$ 945.6

Goodwill is subject to impairment testing at least annually. In addition, goodwill is tested more frequently if a change in circumstances or the occurrence of events indicates that potential impairment exists.

7. FINANCIAL INSTRUMENTS

Currency Price Risk Management

Our earnings, cash flows, and financial position are exposed to foreign currency risk from foreign currency denominated transactions and net investments in foreign operations. It is our policy to minimize the cash flow volatility to changes in currency exchange rates. This is accomplished by identifying and evaluating the risk that our cash flows will change in value due to changes in exchange rates and by determining the appropriate strategies necessary to manage such exposures. Our objective is to maintain economically balanced currency risk management strategies that provide adequate downside protection.

Forward Exchange Contracts

We enter into forward exchange contracts to reduce the cash flow exposure to foreign currency fluctuations associated with highly anticipated cash flows and certain firm commitments such as the purchase of plant and equipment. Forward exchange contracts are also used to hedge the value of investments in certain foreign subsidiaries and affiliates by creating a liability in a currency in which we have a net equity position. The primary currency pair in this portfolio of forward contracts is the Euro/U.S. Dollar.

In addition to the foreign exchange contracts that are designated as hedges, we also hedge foreign currency exposures utilizing forward exchange contracts that are not designated as hedges. These contracts are used to hedge foreign currency-denominated monetary assets and liabilities, primarily working capital. The primary objective of these forward contracts is to protect the value of foreign currency-denominated monetary assets and liabilities from the effects of volatility in foreign exchange rates that might occur prior to their receipt or settlement. This portfolio of forward exchange contracts is comprised of many different foreign currency pairs with a profile that changes from time to time depending on business activity and sourcing decisions.

The table below summarizes the Company's outstanding currency price risk management instruments:

	31 March 2011		30 September 2010	
	US\$ Notional	Years Average Maturity	US\$ Notional	Years Average Maturity
Forward exchange contracts:				
Cash flow hedges	\$ 1,568.0	.4	\$ 1,605.5	.5
Net investment hedges	665.8	2.5	648.5	3.0
Hedges not designated	424.7	.1	373.6	.2
Total Forward Exchange Contracts	\$ 2,658.5	.9	\$ 2,627.6	1.1

In addition to the above, we use foreign currency denominated debt and qualifying intercompany loans to hedge the foreign currency exposures of our net investment in certain foreign affiliates. The designated foreign currency denominated debt at 31 March 2011 includes €746.7 million and NT\$967.0 million, and at 30 September 2010 includes €782.1 million and NT\$967.0 million. The designated intercompany loans include €437.0 million at 31 March 2011 and 30 September 2010.

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Debt Portfolio Management

It is our policy to identify on a continuing basis the need for debt capital and evaluate the financial risks inherent in funding the Company with debt capital. Reflecting the result of this ongoing review, our debt portfolio and hedging program are managed with the objectives and intent to (1) reduce funding risk with respect to borrowings made by us to preserve our access to debt capital and provide debt capital as required for funding and liquidity purposes, and (2) manage the aggregate interest rate risk and the debt portfolio in accordance with certain debt management parameters.

Interest Rate Swap Contracts

We enter into interest rate swap contracts to change the fixed/variable interest rate mix of our debt portfolio in order to maintain the percentage of fixed- and variable-rate debt within the parameters set by management. In accordance with these parameters, the agreements are used to optimize interest rate risks and costs inherent in our debt portfolio. The current interest rate swap portfolio consists of fixed to floating swaps denominated in U.S. dollars and in Euros. In addition, we use interest rate swap agreements to hedge the interest rate on anticipated fixed-rate debt issuance. The notional amount of the interest rate swap agreements are equal to or less than the designated debt instrument being hedged. When interest rate swaps are used, the indices of the swap instruments and the debt to which they are designated are the same. It is our policy not to enter into any interest rate swap contracts which lever a move in interest rates on a greater than one-to-one basis.

Cross Currency Interest Rate Swap Contracts

We enter into cross currency interest rate swap contracts when risk management deems necessary. These contracts may entail both the exchange of fixed- and floating-rate interest payments periodically over the life of the agreement and the exchange of one currency for another currency at inception and at a specified future date. These contracts effectively convert the currency denomination of a debt instrument into another currency in which we have a net equity position while changing the interest rate characteristics of the instrument. The contracts are used to hedge long-term intercompany and third-party borrowing transactions and certain net investments in foreign operations. The current cross currency swap portfolio consists of a single fixed to fixed swap between U.S. dollars and British Pound Sterling.

The following table summarizes our outstanding interest rate swaps and cross currency interest rate swaps:

	31 March 2011				30 September 2010			
	US\$ Notional	Pay %	Average Receive %	Years Average Maturity	US\$ Notional	Pay %	Average Receive %	Years Average Maturity
Interest rate swaps (fair value hedge)	\$ 591.8	LIBOR	3.39%	5.0	\$ 617.0	LIBOR	3.66%	3.8
Cross currency interest rate swaps (net investment hedge)	\$ 32.2	5.54%	5.48%	3.0	\$ 32.2	5.54%	5.48%	3.5

The table below summarizes the fair value and balance sheet location of our outstanding derivatives:

	Balance Sheet Location	31 March	30 September	Balance Sheet Location	31 March	30 September	
		2011	2010		2011	2010	
		Fair Value	Fair Value			Fair Value	Fair Value
Derivatives Designated as Hedging Instruments:							
Foreign exchange contracts	Other receivables	\$ 23.7	\$ 29.8	Accrued liabilities	\$ 17.8	\$ 22.3	
Interest rate swap contracts	Other receivables	6.9	6.6	Accrued liabilities	.9	1.3	
Foreign exchange contracts	Other noncurrent assets	24.9	38.7	Other noncurrent liabilities	29.4	19.9	
Interest rate swap contracts	Other noncurrent assets	13.1	33.1	Other noncurrent liabilities	2.9	2.4	
Total Derivatives Designated as Hedging Instruments		\$ 68.6	\$ 108.2			\$ 51.0	\$ 45.9
Derivatives Not Designated as Hedging Instruments:							
Foreign exchange contracts	Other receivables	\$ 3.1	\$ 6.2	Accrued liabilities	\$ 3.6	\$ 8.3	
Total Derivatives		\$ 71.7	\$ 114.4			\$ 54.6	\$ 54.2

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Refer to Note 8, Fair Value Measurements, which defines fair value, describes the method for measuring fair value, and provides additional disclosures regarding fair value measurements.

The table below summarizes the gain or loss related to our cash flow hedges, net investment hedges, and derivatives not designated as hedging instruments. The amounts of gain or loss associated with the outstanding fair value hedges are not material.

	Three Months Ended 31 March							
	Forward Exchange Contracts		Foreign Currency Debt		Other ^(A)		Total	
	2011	2010	2011	2010	2011	2010	2011	2010
Cash Flow Hedges:								
Net (gain) loss recognized in OCI (effective portion)	\$ (8.6)	\$ 6.9	\$ —	\$ —	\$ —	\$ —	\$ (8.6)	\$ 6.9
Net gain (loss) reclassified from OCI to sales/cost of sales (effective portion)	(6.6)	(2.1)	—	—	—	.2	(6.6)	(1.9)
Net gain (loss) reclassified from OCI to other (income) expense (effective portion)	8.1	(3.2)	—	—	—	—	8.1	(3.2)
Net gain (loss) reclassified from OCI to other (income) expense (ineffective portion)	.1	(.2)	—	—	—	—	.1	(.2)
Net Investment Hedges:								
Net (gain) loss recognized in OCI	\$ 18.3	\$ (27.0)	\$ 71.2	\$ (58.4)	\$.5	\$ (1.2)	\$ 90.0	\$ (86.6)
Derivatives Not Designated as Hedging Instruments:								
Net ^(B) (gain) loss recognized in other (income) expense	\$.9	\$ (4.5)	\$ —	\$ —	\$ —	\$ —	\$.9	\$ (4.5)

	Six Months Ended 31 March							
	Forward Exchange Contracts		Foreign Currency Debt		Other ^(A)		Total	
	2011	2010	2011	2010	2011	2010	2011	2010
Cash Flow Hedges:								
Net (gain) loss recognized in OCI (effective portion)	\$ (2.4)	\$ 9.1	\$ —	\$ —	\$ —	\$.2	\$ (2.4)	\$ 9.3
Net gain (loss) reclassified from OCI to sales/cost of sales (effective portion)	(6.1)	(4.9)	—	—	—	2.0	(6.1)	(2.9)
Net gain (loss) reclassified from OCI to other (income) expense (effective portion)	.8	(4.7)	—	—	—	—	.8	(4.7)
Net (loss) reclassified from OCI to other (income) expense (ineffective portion)	(.1)	(.2)	—	—	—	—	(.1)	(.2)
Net Investment Hedges:								
Net (gain) loss recognized in OCI	\$ 14.3	\$ (35.6)	\$ 54.1	\$ (90.2)	\$.3	\$ (.9)	\$ 68.7	\$ (126.7)
Derivatives Not Designated as Hedging Instruments:								
Net ^(B) (gain) loss recognized in other (income) expense	\$.7	\$ (3.5)	\$ —	\$ —	\$ —	\$ —	\$.7	\$ (3.5)

^(A) Other includes the impact on other comprehensive income (OCI) and earnings related to commodity swap contracts and interest rate swaps.

^(B) The impact of the non-designated hedges noted above was largely offset by gains and losses, respectively, resulting from the impact of changes in exchange rates on recognized assets and liabilities denominated in nonfunctional currencies.

Credit Risk-Related Contingent Features

Certain derivative instruments are executed under agreements that require us to maintain a minimum credit rating with both Standard & Poor's and Moody's. If our credit rating falls below this threshold, the counterparty to the derivative instruments has the right to request full collateralization on the derivatives' net liability position. The net liability position of derivatives with credit risk-related contingent features was \$16.7 as of 31 March 2011 and \$4.2 as of 30 September 2010. Because our current credit rating is above the various pre-established thresholds, no collateral has been posted on these liability positions.

Counterparty Credit Risk Management

We execute all derivative transactions with counterparties that are highly rated financial institutions all of which are investment grade at this time. Some of our underlying derivative agreements give us the right to require the institution to post collateral if its credit rating falls below the pre-established thresholds with Standard & Poor's or Moody's. These are the same agreements referenced in Credit Risk-Related Contingent Features above. The collateral that the counterparties would be required to post was \$23.7 as of 31 March 2011 and \$52.2 as of 30 September 2010. No financial institution is required to post collateral at this time, as all have credit ratings at or above the threshold.

8. FAIR VALUE MEASUREMENTS

Fair value is defined as an exit price (i.e., the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date). The methods and assumptions used to measure the fair value of financial instruments are as follows:

Derivatives

The fair value of our interest rate swap agreements and foreign exchange contracts are quantified using the income approach and are based on estimates using standard pricing models. These models take into account the value of future cash flows as of the balance sheet date, discounted to a present value using discount factors that match both the time to maturity and currency of the underlying instruments. The computation of the fair values of these instruments is generally performed by the Company. These standard pricing models utilize inputs which are derived from or corroborated by observable market data such as interest rate yield curves and currency spot and forward rates. In addition, on an ongoing basis, we randomly test a subset of our valuations against valuations received from the transaction's counterparty to validate the accuracy of our standard pricing models.

Refer to Note 7, Financial Instruments, for a description of derivative instruments, including details on the balance sheet line item classifications.

Available-for-Sale Securities

The fair value of available-for-sale securities is based on a market approach, specifically quoted market prices in publicly traded companies from the New York Stock Exchange and NASDAQ. These investments are reported within other noncurrent assets on the consolidated balance sheet, with holding gains and losses recorded to other comprehensive income, net of tax, within total equity.

Long-term Debt

The fair value of our debt is based on estimates using standard pricing models that take into account the value of future cash flows as of the balance sheet date, discounted to a present value using discount factors that match both the time to maturity and currency of the underlying instruments. These standard valuation models utilize observable market data such as interest rate yield curves and currency spot rates. The computation of the fair value of these instruments is generally performed by the Company.

Other Liabilities

Other liabilities include the obligation to purchase 25% of the remaining shares of CryoService Limited (CSL). CSL is not publically traded and therefore, no observable market exists for the shares. The fair value of the outstanding liability was determined using an internally developed valuation model that was based on a multiple of earnings formula. The liability is reported in accrued liabilities on the consolidated balance sheet.

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The carrying values and fair values of financial instruments were as follows:

	31 March 2011		30 September 2010	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Assets				
Derivatives				
Foreign exchange contracts	\$ 51.7	\$ 51.7	\$ 74.7	\$ 74.7
Interest rate swap contracts	20.0	20.0	39.7	39.7
Available-for-sale securities				
Airgas investment	—	—	102.5	102.5
Other investments	—	—	1.1	1.1
Liabilities				
Derivatives				
Foreign exchange contracts	\$ 50.8	\$ 50.8	\$ 50.5	\$ 50.5
Interest rate swap contracts	3.8	3.8	3.7	3.7
Long-term debt, including current portion	3,733.8	3,903.9	3,842.3	4,146.4
Other liabilities	51.4	51.4	42.0	42.0

The carrying amounts reported in the balance sheet for cash and cash items, trade receivables, payables and accrued liabilities, accrued income taxes, and short-term borrowings approximate fair value due to the short-term nature of these instruments. Accordingly, these items have been excluded from the above table.

The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels as follows:

Level 1 — Quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 — Inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the asset or liability.

Level 3 — Inputs that are unobservable for the asset or liability based on our own assumptions (about the assumptions market participants would use in pricing the asset or liability).

The following table summarizes assets and liabilities measured at fair value on a recurring basis in the consolidated balance sheets:

	31 March 2011				30 September 2010			
	Total	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3
Assets at Fair Value								
Derivatives								
Foreign exchange contracts	\$ 51.7	\$ —	\$ 51.7	\$ —	\$ 74.7	\$ —	\$ 74.7	\$ —
Interest rate swap contracts	20.0	—	20.0	—	39.7	—	39.7	—
Available-for-sale securities								
Airgas investment	—	—	—	—	102.5	102.5	—	—
Other investments	—	—	—	—	1.1	1.1	—	—
Total Assets at Fair Value	\$ 71.7	\$ —	\$ 71.7	\$ —	\$ 218.0	\$ 103.6	\$ 114.4	\$ —
Liabilities at Fair Value								
Derivatives								
Foreign exchange contracts	\$ 50.8	\$ —	\$ 50.8	\$ —	\$ 50.5	\$ —	\$ 50.5	\$ —
Interest rate swap contracts	3.8	—	3.8	—	3.7	—	3.7	—
Other liabilities	51.4	—	—	51.4	42.0	—	—	42.0
Total Liabilities at Fair Value	\$ 106.0	\$ —	\$ 54.6	\$ 51.4	\$ 96.2	\$ —	\$ 54.2	\$ 42.0

Refer to Note 1, Major Accounting Policies, in our 2010 Form 10-K and Note 7, Financial Instruments, in this quarterly filing for additional information on our accounting and reporting of the fair value of financial instruments.

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Changes in the fair value of other liabilities, valued using significant unobservable inputs (Level 3), are presented below:

Balance as of 30 September 2010	\$ 42.0
Expense included in earnings	.5
Adjustment to initial estimate	6.1
Balance as of 31 December 2010	\$ 48.6
Expense included in earnings	1.7
Currency translation adjustment	1.1
Balance as of 31 March 2011	\$ 51.4

9. RETIREMENT BENEFITS

The components of net pension cost for the defined benefit pension plans and other postretirement benefit cost for the three and six months ended 31 March 2011 and 2010 were as follows:

Three Months Ended 31 March	Pension Benefits				Other Benefits	
	2011		2010		2011	2010
	U.S.	International	U.S.	International		
Service cost	\$ 10.9	\$ 7.3	\$ 10.6	\$ 6.0	\$ 1.4	\$ 1.2
Interest cost	30.7	16.0	30.9	15.1	.8	1.1
Expected return on plan assets	(44.9)	(17.0)	(41.1)	(16.1)	—	—
Prior service cost amortization	.6	.2	.7	.2	—	—
Actuarial loss amortization	16.0	8.2	11.7	4.9	1.0	.7
Settlement and curtailment charges	—	—	—	—	—	—
Special termination benefits	—	—	—	—	—	—
Other	—	.5	—	.6	—	—
Net periodic benefit cost	\$ 13.3	\$ 15.2	\$ 12.8	\$ 10.7	\$ 3.2	\$ 3.0

Six Months Ended 31 March	Pension Benefits				Other Benefits	
	2011		2010		2011	2010
	U.S.	International	U.S.	International		
Service cost	\$ 21.8	\$ 14.5	\$ 21.2	\$ 12.2	\$ 2.8	\$ 2.4
Interest cost	61.5	31.7	61.8	31.0	1.6	2.2
Expected return on plan assets	(89.8)	(33.6)	(82.2)	(32.9)	—	—
Prior service cost amortization	1.2	.4	1.4	.4	—	—
Actuarial loss amortization	32.0	15.6	23.4	10.0	2.0	1.4
Settlement and curtailment charges	—	—	—	.5	—	—
Special termination benefits	—	—	—	3.5	—	—
Other	—	.9	—	1.4	—	—
Net periodic benefit cost	\$ 26.7	\$ 29.5	\$ 25.6	\$ 26.1	\$ 6.4	\$ 6.0

For the six months ended 31 March 2011 and 2010, our cash contributions to funded plans and benefit payments under unfunded plans were \$221.4 and \$337.7, respectively. Total contributions for fiscal 2011 are expected to be approximately \$247. During fiscal 2010, total contributions were \$406.6.

10. COMMITMENTS AND CONTINGENCIES

Litigation

We are 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 our 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 million (approximately \$110 at 31 March 2011) 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 our total revenue in Brazil in 2003.

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We have denied the allegations made by the authorities and filed an appeal in October 2010 with the Brazilian courts. Certain of our defenses, if successful, could result in the matter being dismissed with no fine against us. We, with advice of our outside legal counsel, have assessed the status of this matter and have 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. We estimate the maximum possible loss to be the full amount of the fine of R\$179.2 million (approximately \$110 at 31 March 2011) plus interest accrued thereon until final disposition of the proceedings.

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

While we do not expect that any sums we may have to pay in connection with this or any other legal proceeding would have a materially adverse effect on our consolidated financial position or net cash flows, a future charge for regulatory fines or damage awards could have a significant impact on our net income in the period in which it is recorded.

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 30 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 or is otherwise engaged in investigation or remediation. In addition, the Company is also involved in cleanup activities at certain of its current and former manufacturing sites. The Company continually monitors these sites for which it has environmental exposure.

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 consistent with the policy set forth in Note 1, Major Accounting Policies, to the consolidated financial statements in our 2010 Form 10-K. The consolidated balance sheets at 31 March 2011 and 30 September 2010 included an accrual of \$84.0 and \$87.0, respectively, primarily as part of other noncurrent liabilities. The environmental liabilities will be paid over a period of up to 30 years. We estimate the exposure for environmental loss contingencies to range from \$84 to a reasonably possible upper exposure of \$98 as of 31 March 2011.

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 is designated, the scope of remediation is increased, a different remediation alternative is identified, or a significant increase in the Company's proportionate share occurs. The Company does not expect that any sum it may have to pay in connection with environmental matters in excess of the amounts recorded or disclosed above would have a material adverse impact on its financial position or results of operations in any one year.

PACE

At 31 March 2011, \$35.7 of the environmental accrual was related to the Pace facility.

In 2006, the Company sold its Amines business, which included operations at Pace, Florida 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) and the United States Environmental Protection Agency (USEPA) to continue its remediation efforts. The Company estimated that it would take about 20 years to complete the groundwater remediation, and the costs through completion were estimated to range from \$42 to \$50. As no amount within the range was a better estimate than another, the Company recognized a pretax expense in fiscal 2006 of \$42.0 as a component of income from discontinued operations and recorded an environmental accrual of \$42.0 in continuing operations on the consolidated balance sheets. There has been no change to the estimated exposure range related to the Pace facility.

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 USEPA. Contaminated soils have been bioremediated, and the treated soils have been secured in a lined on-site disposal cell. Several groundwater recovery systems have been installed to contain and remove contamination from groundwater. The Company completed an extensive assessment of the site to determine how well

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existing measures are working, what additional corrective measures may be needed, and whether newer remediation technologies that were not available in the 1990s might be suitable to more quickly and effectively remove groundwater contaminants. Based on assessment results, the Company completed a focused feasibility study that identified new and alternative approaches which should more effectively remove contaminants and achieve the targeted remediation goals. The Company is reviewing the new approaches with the FDEP.

PIEDMONT

At 31 March 2011, \$21.2 of the environmental accrual was related to the Piedmont site.

On 30 June 2008, the Company sold its Elkton, Maryland and Piedmont, South Carolina production facilities and the related North American atmospheric emulsions and global pressure sensitive adhesives businesses. In connection with the sale, the Company recognized a liability for retained environmental obligations associated with remediation activities at the Piedmont site. This site is under active remediation for contamination caused by an insolvent prior owner. The sale of the site triggered expense recognition. Prior to the sale, remediation costs had been capitalized since they improved the property as compared to its condition when originally acquired. The Company is required by the South Carolina Department of Health and Environmental Control to address both contaminated soil and groundwater. Numerous areas of soil contamination have been addressed, and contaminated groundwater is being recovered and treated. The Company estimated that it would take until 2015 to complete source area remediation and another 15 years thereafter to complete groundwater recovery, with costs through completion estimated to be \$24.0. The Company recognized a pretax expense in 2008 of \$24.0 as a component of income from discontinued operations and recorded an environmental liability of \$24.0 in continuing operations on the consolidated balance sheets. There has been no change to the estimated exposure.

PAULSBORO

At 31 March 2011, \$8.1 of the environmental accrual was related to the Paulsboro site.

During the first quarter of 2009, management committed to a plan to sell the production facility in Paulsboro, New Jersey and recognized a \$16.0 environmental liability associated with this site. The change in the liability balance since it was established is a result of spending and changes in the estimated exposure. In December 2009, the Company completed the sale of this facility. The Company is required by the New Jersey state law to investigate and, if contaminated, remediate a site upon its sale. The Company estimates that it will take at least several years to complete the investigation/remediation efforts at this site.

11. SHARE-BASED COMPENSATION

We have various share-based compensation programs, which include stock options, deferred stock units, and restricted shares. During the six months ended 31 March 2011, we granted 932,026 stock options at a weighted-average exercise price of \$86.39 and an estimated fair value of \$23.83 per option. The fair value of these options was estimated using a Black Scholes option valuation model that used the following assumptions: expected volatility of 29.2%-30.0%; expected dividend yield of 2.2%; expected life in years of 7.0-8.7; and a risk-free interest rate of 2.4%-2.9%. Fair values of stock options granted prior to October 1, 2010 were estimated using a lattice-based option valuation model. Beginning in fiscal 2011, we used the Black Scholes model to value stock option awards. The Black Scholes model is a widely used valuation technique that incorporates all the measurement objectives required by the share based compensation accounting guidance. Additionally, the Black Scholes model incorporates assumptions that reflect all substantive characteristics of our program. We believe the Black Scholes model improves comparability and efficiency. The impact of the change in valuation models was not significant to the consolidated financial statements. In addition, we granted 235,803 deferred stock units at a weighted-average grant-date fair value of \$86.36 and 31,825 restricted shares at a weighted-average grant-date fair value of \$86.39. Refer to Note 19, Share-Based Compensation, in our 2010 Form 10-K for information on the valuation and accounting for these programs.

Share-based compensation cost charged against income in the three and six months ended 31 March 2011 was \$11.7 (\$7.1 after-tax) and \$21.9 (\$13.5 after-tax), respectively. Of the share-based compensation cost recognized, \$19.1 was a component of selling and administrative expense, \$1.8 a component of cost of sales, and \$1.0 a component of research and development. Share-based compensation cost charged against income in the three and six months ended 31 March 2010 was \$15.0 (\$9.4 after-tax) and \$22.7 (\$14.2 after-tax), respectively. The amount of share-based compensation cost capitalized in 2011 and 2010 was not material.

12. EQUITY

The following is a summary of the changes in total equity for the three and six months ended 31 March:

	Three Months Ended 31 March					
	2011			2010		
	Air Products	Non- controlling Interests	Total Equity	Air Products	Non- controlling Interests	Total Equity
Balance at 31 December	\$ 5,810.0	\$ 167.2	\$ 5,977.2	\$ 5,033.9	\$ 150.2	\$ 5,184.1
Net Income	304.3	7.2	311.5	252.0	6.4	258.4
Components of Other Comprehensive Income (Loss)						
Translation adjustments	116.3	.1	116.4	34.7	(.3)	34.4
Net gain (loss) on derivatives	8.6	—	8.6	(6.9)	—	(6.9)
Unrealized holding gain on available-for-sale securities	.6	—	.6	16.4	—	16.4
Reclassification adjustments:						
Derivatives	(1.6)	—	(1.6)	5.3	—	5.3
Available-for-sale securities	(15.9)	—	(15.9)	—	—	—
Pension and postretirement benefits	17.1	—	17.1	11.3	—	11.3
Total Other Comprehensive Income (Loss)	125.1	.1	125.2	60.8	(.3)	60.5
Comprehensive Income	429.4	7.3	436.7	312.8	6.1	318.9
Purchase of treasury stock	(350.0)	—	(350.0)	—	—	—
Dividends on common stock (per share \$.58, \$.49)	(122.9)	—	(122.9)	(104.0)	—	(104.0)
Dividends to noncontrolling interests	—	(.5)	(.5)	—	(8.7)	(8.7)
Share-based compensation expense	11.7	—	11.7	15.0	—	15.0
Issuance of treasury shares for stock option and award plans	33.4	—	33.4	6.1	—	6.1
Tax benefits of stock option and award plans	14.5	—	14.5	2.6	—	2.6
Contribution from noncontrolling interests	—	—	—	—	5.1	5.1
Other equity transactions	(.9)	—	(.9)	(.8)	—	(.8)
Balance at 31 March	\$ 5,825.2	\$ 174.0	\$ 5,999.2	\$ 5,265.6	\$ 152.7	\$ 5,418.3

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	Six Months Ended 31 March					
	2011			2010		
	Air Products	Non-controlling Interests	Total Equity	Air Products	Non-controlling Interests	Total Equity
Balance at 30 September	\$ 5,546.9	\$ 150.7	\$ 5,697.6	\$ 4,791.9	\$ 138.1	\$ 4,930.0
Net Income	572.9	14.5	587.4	503.8	11.4	515.2
Components of Other Comprehensive Income (Loss)						
Translation adjustments	156.4	8.0	164.4	68.9	.4	69.3
Net gain (loss) on derivatives	2.5	(.1)	2.4	(9.3)	—	(9.3)
Unrealized holding gain (loss) on available-for-sale securities	(4.6)	—	(4.6)	16.5	—	16.5
Reclassification adjustments:						
Derivatives	5.4	—	5.4	7.8	—	7.8
Available-for-sale securities	(16.1)	—	(16.1)	—	—	—
Pension and postretirement benefits	33.6	—	33.6	23.5	.2	23.7
Total Other Comprehensive Income (Loss)	177.2	7.9	185.1	107.4	.6	108.0
Comprehensive Income	750.1	22.4	772.5	611.2	12.0	623.2
Purchase of treasury stock	(350.0)	—	(350.0)	—	—	—
Dividends on common stock (per share \$1.07, \$.94)	(228.2)	—	(228.2)	(199.5)	—	(199.5)
Dividends to noncontrolling interests	—	(.5)	(.5)	—	(8.9)	(8.9)
Share-based compensation expense	21.9	—	21.9	22.7	—	22.7
Issuance of treasury shares for stock option and award plans	65.0	—	65.0	26.7	—	26.7
Tax benefits of stock option and award plans	27.8	—	27.8	14.5	—	14.5
Purchase of noncontrolling interest	(6.1)	—	(6.1)	—	—	—
Contribution from noncontrolling interests	—	1.4	1.4	—	11.6	11.6
Other equity transactions	(2.2)	—	(2.2)	(1.9)	(.1)	(2.0)
Balance at 31 March	\$ 5,825.2	\$ 174.0	\$ 5,999.2	\$ 5,265.6	\$ 152.7	\$ 5,418.3

13. EARNINGS PER SHARE

The following table sets forth the computation of basic and diluted earnings per share (EPS):

	Three Months Ended 31 March		Six Months Ended 31 March	
	2011	2010	2011	2010
NUMERATOR				
Net Income Attributable to Air Products (used in basic and diluted EPS)	\$304.3	\$252.0	\$572.9	\$503.8
DENOMINATOR (in millions)				
Weighted average number of common shares used in basic EPS	213.8	212.1	214.0	211.9
Effect of dilutive securities				
Employee stock options	4.1	3.9	4.1	4.1
Other award plans	.9	.9	.9	1.0
	5.0	4.8	5.0	5.1
Weighted average number of common shares and dilutive potential common shares used in diluted EPS	218.8	216.9	219.0	217.0
BASIC EPS ATTRIBUTABLE TO AIR PRODUCTS	\$ 1.42	\$ 1.19	\$ 2.68	\$ 2.38
DILUTED EPS ATTRIBUTABLE TO AIR PRODUCTS	\$ 1.39	\$ 1.16	\$ 2.62	\$ 2.32

Options on 2.1 million shares were antidilutive and therefore excluded from the computation of diluted earnings per share for the three and six months ended 31 March 2011. Options on 2.2 million shares were antidilutive and therefore excluded from the computation of diluted earnings per share for the three and six months ended 31 March 2010, respectively.

14. NONCONTROLLING INTEREST

In June 2010, we entered into agreements obligating us to purchase 25% of the remaining shares of CryoService Limited (CSL), a cryogenic and specialty gases company in the U.K., which increased our ownership interest from 72% to 97%. The agreements require the consideration, which is based on a multiple of earnings formula, to be remitted in January 2012. The carrying value of the 25% noncontrolling interest at the time the sale share agreements were entered into was \$10.8. As a result of this arrangement, the Company reduced the noncontrolling interest for the 25% purchase obligation and recorded an estimated liability based on the earnings formula. As the purchase of the noncontrolling interest does not result in a change of control, the difference between the carrying value of the 25% noncontrolling interest and the liability recognized was recorded as a reduction in capital in excess of par value.

In the first quarter of 2011, we revised our initial estimate of the liability and recorded an adjustment of \$6.1 to the liability and capital in excess of par. At 31 March 2011, the liability amounted to \$51.4 and has been reported in other liabilities on the consolidated balance sheet.

The following table presents the effect of changes in ownership interests in subsidiaries on Air Products shareholder's equity:

	Six Months Ended 31 March	
	2011	2010
Net Income Attributable to Air Products	\$ 572.9	\$ 503.8
Transfers to noncontrolling interests:		
Decrease in Air Products capital in excess of par value for purchase of noncontrolling interests	(6.1)	—
Changes from net income attributable to Air Products and transfers to noncontrolling interests	\$ 566.8	\$ 503.8

15. SUPPLEMENTAL INFORMATION

Share Repurchase Program

On 20 September 2007, the Board of Directors authorized the repurchase of up to \$1,000 of the Company's outstanding common stock. During the first six months of fiscal year 2011, the Company purchased 3.8 million of its outstanding shares at a cost of \$350.0. At 31 March 2011, \$299.2 in share repurchase authorization remains.

16. BUSINESS SEGMENT AND GEOGRAPHIC INFORMATION

Our segments are organized based on differences in product and/or type of customer. We have four business segments consisting of Merchant Gases, Tonnage Gases, Electronics and Performance Materials, and Equipment and Energy.

Business Segment Information

	Three Months Ended 31 March		Six Months Ended 31 March	
	2011	2010	2011	2010
Revenues from External Customers				
Merchant Gases	\$ 1,012.7	\$ 921.7	\$ 2,000.5	\$ 1,855.3
Tonnage Gases	799.2	756.7	1,565.2	1,454.6
Electronics and Performance Materials	575.9	451.2	1,101.9	884.6
Equipment and Energy	113.5	119.4	225.4	228.0
Segment and Consolidated Totals	\$ 2,501.3	\$ 2,249.0	\$ 4,893.0	\$ 4,422.5
Operating Income				
Merchant Gases	\$ 185.1	\$ 178.1	\$ 385.5	\$ 367.7
Tonnage Gases	120.9	107.2	236.5	207.4
Electronics and Performance Materials	91.6	57.0	160.6	105.4
Equipment and Energy	22.5	18.2	42.7	26.0
Segment Total	\$ 420.1	\$ 360.5	\$ 825.3	\$ 706.5
Net loss on Airgas transaction	(5.0)	(23.4)	(48.5)	(23.4)
Other	4.4	3.5	3.3	2.5
Consolidated Total	\$ 419.5	\$ 340.6	\$ 780.1	\$ 685.6

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	31 March 2011	30 September 2010
Identifiable Assets ^(A)		
Merchant Gases	\$ 5,241.9	\$ 5,075.3
Tonnage Gases	4,186.3	3,876.4
Electronics and Performance Materials	2,382.7	2,275.8
Equipment and Energy	315.7	341.3
Segment Total	\$ 12,126.6	\$ 11,568.8
Other	714.8	1,024.3
Consolidated Total	\$ 12,841.4	\$ 12,593.1

^(A) Identifiable assets are equal to total assets less investment in net assets and advances to equity affiliates.

Geographic Information

	Three Months Ended 31 March		Six Months Ended 31 March	
	2011	2010	2011	2010
Revenues from External Customers				
North America	\$ 1,194.1	\$ 1,103.4	\$ 2,320.0	\$ 2,131.3
Europe	741.0	705.4	1,470.2	1,429.7
Asia	498.4	383.2	980.2	754.7
Latin America/Other	67.8	57.0	122.6	106.8
Total	\$ 2,501.3	\$ 2,249.0	\$ 4,893.0	\$ 4,422.5

Geographic information is based on country of origin. The Europe segment operates principally in Belgium, France, Germany, the Netherlands, Poland, the U.K. and Spain. The Asia segment operates principally in China, Korea, and Taiwan.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

(Millions of dollars, except for share data)

The disclosures in this quarterly report are complementary to those made in our 2010 Form 10-K. An analysis of results for the second quarter and first six months of 2011 is provided in the Management's Discussion and Analysis to follow.

All comparisons in the discussion are to the corresponding prior year unless otherwise stated. All amounts presented are in accordance with U.S. generally accepted accounting principles (GAAP), except as noted.

Captions such as net income attributable to Air Products and diluted earnings per share attributable to Air Products are simply referred to as "net income" and "diluted earnings per share" throughout this Management's Discussion and Analysis, unless otherwise stated.

The discussion of second quarter and year to date results that follows includes comparisons to non-GAAP financial measures. These non-GAAP measures exclude the net loss on Airgas transaction in 2011 and 2010. The presentation of non-GAAP measures is intended to enhance the usefulness of financial information by providing measures that our management uses internally to evaluate our baseline performance on a comparable basis. The reconciliation of reported GAAP results to non-GAAP measures is presented on page 31.

SECOND QUARTER 2011 VS. SECOND QUARTER 2010

SECOND QUARTER 2011 IN SUMMARY

- Sales of \$2,501.3 increased 11%, or \$252.3. Underlying sales increased 12%, primarily due to volume growth in our Electronics and Performance Materials, Merchant Gases and Tonnage Gases segments.
- Operating income of \$419.5 increased 23%, or \$78.9 and operating margin of 16.8% increased 170 basis points (bp). On a non-GAAP basis, operating income of \$424.5 increased 17%, or \$60.5 and operating margin of 17.0% increased 80 bp, primarily from higher volumes.
- Net income of \$304.3 increased 21%, or \$52.3, and diluted earnings per share of \$1.39 increased 20%, or \$.23. On a non-GAAP basis, net income of \$308.7 increased 16%, or \$42.1, and diluted earnings per share of \$1.41 increased 15%, or \$.18. A summary table of changes in diluted earnings per share is presented below.
- We withdrew our tender offer to purchase all of the outstanding shares of Airgas, Inc. and terminated the associated credit facility.
- We purchased 3.8 million of our outstanding shares at a cost of \$350.0 under the \$1,000 share repurchase program announced in the fourth quarter of 2007. At 31 March 2011, \$299.2 in share repurchase authorization remains.
- We increased our quarterly dividend from \$.49 to \$.58 per share. This represents the 29th consecutive year that we have increased our dividend payment.

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Changes in Diluted Earnings per Share Attributable to Air Products

	Three Months Ended 31 March		Increase (Decrease)
	2011	2010	
Diluted Earnings per Share	\$ 1.39	\$ 1.16	\$.23
Net loss on Airgas transaction	.02	.07	(.05)
Diluted Earnings per Share – Non-GAAP Basis	\$ 1.41	\$ 1.23	\$.18
Operating Income (after-tax)			
Underlying business			
Volume			\$.27
Price/raw materials			(.02)
Costs			(.04)
Currency			(.01)
Operating Income			.20
Other (after-tax)			
Income tax rate			(.01)
Average shares outstanding			(.01)
Other			(.02)
Total Change in Diluted Earnings per Share – Non-GAAP Basis			\$.18

RESULTS OF OPERATIONS

Discussion of Consolidated Results

	Three Months Ended 31 March			
	2011	2010	\$ Change	Change
Sales	\$ 2,501.3	\$ 2,249.0	\$ 252.3	11%
Operating income – GAAP Basis	419.5	340.6	78.9	23%
Operating income – Non-GAAP Basis	424.5	364.0	60.5	17%
Operating margin – GAAP Basis	16.8%	15.1%	—	170bp
Operating margin – Non-GAAP Basis	17.0%	16.2%	—	80bp
Equity affiliates' income	31.7	32.2	(.5)	(2)%

Sales

	% Change from Prior Year
Underlying business	
Volume	11%
Price	1%
Currency	1%
Energy and raw material cost pass-through	(2)%
Total Consolidated Change	11%

Underlying business increased sales 12%, primarily due to higher volumes of 11% in our Electronics and Performance Materials, Merchant Gases, and Tonnage Gases segments and higher pricing of 1%. Currency favorably impacted sales by 1%, while energy and raw material contractual cost pass-through to customers decreased sales 2%.

Operating Income and Margin

Underlying business increased \$63 primarily from higher volumes in the Electronics and Performance Materials, Merchant Gases, and Tonnage Gases segments, partially offset by lower net recovery of raw material costs in pricing and higher operating costs. Costs increased as productivity gains were more than offset by higher operating, maintenance, and distribution costs, primarily in the Merchant Gases segment. Unfavorable currency translation and foreign exchange impacts decreased operating income by \$2. On a GAAP basis, operating income includes \$5.0 in net loss related to the Airgas transaction.

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Equity Affiliates' Income

Income from equity affiliates of \$31.7 decreased \$.5.

Selling and Administrative Expense (S&A)

S&A expense of \$259.4 increased \$19.0, primarily due to higher bad debt expense, pension expense, and inflation. S&A as a percent of sales decreased to 10.4% from 10.7%.

Research and Development (R&D)

R&D expense of \$27.9 increased 6%, or \$1.6, primarily due to increased spending in the Energy business. R&D, as a percent of sales, decreased to 1.1% from 1.2%.

Net Loss on Airgas Transaction

As discussed in Note 3 to the Consolidated Financial Statements, we withdrew our tender offer to acquire all of the outstanding stock of Airgas, Inc. (Airgas) on 15 February 2011. In connection with the tender offer, we had secured committed financing in the form of a \$6.7 billion term loan credit facility. This credit facility was also terminated.

Prior to the tender offer, we purchased approximately 1.5 million shares of Airgas stock for a total cost of \$69.6. This amount was recorded as an available-for-sale investment within other noncurrent assets on the consolidated balance sheet. On 16 February 2011, we sold the 1.5 million shares of Airgas stock for total proceeds of \$94.7 and recognized a gain of \$25.1 (\$15.9 after-tax, or \$.07 per share).

For the second quarter of 2011, \$5.0 (\$4.4 after-tax, or \$.02 per share) in net loss was recognized related to this transaction. These amounts are reflected separately on the consolidated income statement within "Net loss on Airgas transaction" and include amortization of the fees related to the term loan credit facility, the gain on the sale of Airgas stock, and other acquisition-related costs. For the year ended 30 September 2010, \$96.0 (\$60.1 after-tax, or \$.28 per share) in expense was recognized in relation to this transaction. Refer to Note 3, Airgas Transaction, to the consolidated financial statements.

Other Income, Net

Items recorded to other income arise from transactions and events not directly related to our principal income earning activities.

Other income of \$13.0 increased \$2.6, primarily due to increased royalty income and gains on asset sales, partially offset by unfavorable foreign exchange. Otherwise, no individual items were significant in comparison to the prior year.

Interest Expense

	Three Months Ended 31 March	
	2011	2010
Interest incurred	\$ 35.2	\$ 33.3
Less: capitalized interest	5.8	3.8
Interest expense	\$ 29.4	\$ 29.5

Interest incurred increased \$1.9. The increase was driven by higher average interest rates on variable rate debt, partially offset by a lower average debt balance. The change in capitalized interest is driven by an increase in project spending which qualified for capitalization.

Effective Tax Rate

The effective tax rate equals the income tax provision divided by income before taxes. On a GAAP basis, the effective tax rate was 26.1% and 24.7% in the second quarter of 2011 and 2010, respectively. On a non-GAAP basis, the effective tax rate was 26.0% and 25.6% in the second quarter of 2011 and 2010, respectively.

Net Income

Net income was \$304.3 compared to \$252.0 and diluted earnings per share was \$1.39 compared to \$1.16. On a non-GAAP basis, net income was \$308.7 compared to \$266.6 and diluted earnings per share was \$1.41 compared to \$1.23. A summary table of changes in earnings per share is presented on page 22.

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SEGMENT ANALYSIS

Merchant Gases

	Three Months Ended 31 March		\$ Change	Change
	2011	2010		
Sales	\$ 1,012.7	\$ 921.7	\$ 91.0	10%
Operating income	185.1	178.1	7.0	4%
Operating margin	18.3%	19.3%	—	(100bp)
Equity affiliates' income	29.1	26.8	2.3	9%

Merchant Gases Sales

	% Change from Prior Year
Underlying business	
Volume	8%
Price	1%
Currency	1%
Total Merchant Gases Sales Change	10%

Underlying sales increased 9% due to higher volumes of 8% and higher pricing of 1%. Volumes increased across the segment with the strongest growth in Asia. Currency had a favorable impact of 1% on sales.

In North America, sales improved 5%, with volumes up 3% and price up 2%. The increase in volumes was driven by growth across all product lines and higher pricing, primarily in liquid oxygen, liquid nitrogen, and helium. In Europe, sales increased 3%, with volumes up 4% and price down 1%. The volume increase was primarily due to strong liquid/bulk growth, particularly liquid oxygen and nitrogen, with combined packaged gas and healthcare volumes up 1%. Europe pricing decreased with higher packaged gases prices offset by unfavorable healthcare and liquid/bulk pricing. In Asia, sales increased 30%, with underlying sales up 25% and a favorable currency impact of 5%. Volumes increased 18% with strength across all products. Pricing increased 7% with higher liquid argon, oxygen, and nitrogen prices across the region.

Merchant Gases Operating Income and Margin

Operating income increased primarily due to higher volumes of \$25 and favorable currency of \$3, partially offset by higher costs of \$17 and lower net recovery of raw material costs in pricing of \$4. Operating margin decreased 100 bp from prior year, primarily due to higher operating, maintenance, and distribution costs, and lower pricing in our European Healthcare business.

Merchant Gases Equity Affiliates' Income

Merchant Gases equity affiliates' income increased as a result of higher volumes.

Tonnage Gases

	Three Months Ended 31 March		\$ Change	Change
	2011	2010		
Sales	\$ 799.2	\$ 756.7	\$ 42.5	6%
Operating income	120.9	107.2	13.7	13%
Operating margin	15.1%	14.2%	—	90bp

Tonnage Gases Sales

	% Change from Prior Year
Underlying business	
Volume	10%
Currency	1%
Energy and raw material cost pass-through	(5)%
Total Tonnage Gases Sales Change	6%

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Volumes increased 10% primarily driven by refinery hydrogen customers. Currency favorably impacted sales by 1%. Lower natural gas prices resulted in lower energy and raw material contractual cost pass-through to customers, reducing sales by 5%.

Tonnage Gases Operating Income and Margin

Operating income increased primarily due to new plants brought onstream over the last twelve months of \$7 and improved plant efficiencies of \$6. Operating margin increased 90 bp versus prior year, primarily due to improved plant efficiencies and lower natural gas cost pass-through.

Electronics and Performance Materials

	Three Months Ended 31 March		\$ Change	Change
	2011	2010		
Sales	\$ 575.9	\$ 451.2	\$ 124.7	28%
Operating income	91.6	57.0	34.6	61%
Operating margin	15.9%	12.6%	—	330bp

Electronics and Performance Materials Sales

	% Change from Prior Year
Underlying business	
Volume	23%
Price	3%
Currency	2%
Total Electronics and Performance Materials Sales Change	28%

Sales increased due to higher volumes of 23%, higher pricing of 3% and favorable currency of 2%. Electronics sales increased 33%, reflecting increased volumes in tonnage, specialty materials, and the equipment business. Performance Materials sales increased 22% due to volume growth in the Epoxy and Polyurethanes markets and higher pricing related to increased raw material costs.

Electronics and Performance Materials Operating Income

Operating income increased, primarily from improved volumes of \$34 and lower costs of \$2, partially offset by lower net recovery of raw material costs in pricing of \$1. Operating margin improved due to higher volumes and improved productivity.

Equipment and Energy

	Three Months Ended 31 March		\$ Change	% Change
	2011	2010		
Sales	\$ 113.5	\$ 119.4	\$ (5.9)	(5)%
Operating income	22.5	18.2	4.3	24%

Equipment and Energy Sales and Operating Income

Sales decreased reflecting lower air separation unit (ASU) sales. Operating income increased due to higher liquefied natural gas (LNG) heat exchanger activity.

The sales backlog for the Equipment business at 31 March 2011 was \$184, compared to \$274 at 30 September 2010.

Other

Other operating income (loss) includes other expense and income that cannot be directly associated with the business segments, including foreign exchange gains and losses and interest income. Also included are LIFO inventory adjustments, as the business segments use FIFO and the LIFO pool adjustments are not allocated to the business segments. Corporate general and administrative costs and research and development costs are fully allocated to the business segments.

Other operating income of \$4.4 increased \$0.9 primarily due to gains on asset sales offset by unfavorable foreign exchange.

FIRST SIX MONTHS 2011 VS. FIRST SIX MONTHS 2010

FIRST SIX MONTHS 2011 IN SUMMARY

- Sales of \$4,893.0 increased 11%, or \$470.5. Underlying sales increased 12%, primarily due to volume growth in our Electronics and Performance Materials, Tonnage Gases and Merchant Gases segments.
- Operating income of \$780.1 increased 14%, or \$94.5 and operating margin of 15.9% increased 40 bp. On a non-GAAP basis, operating income of \$828.6 increased 17%, or \$119.6 and operating margin of 16.9% increased 90 bp, primarily from higher volumes.
- Net income of \$572.9 increased 14%, or \$69.1, and diluted earnings per share of \$2.62 increased 13%, or \$.30. On a non-GAAP basis, net income of \$604.5 increased 17%, or \$86.1, and diluted earnings per share of \$2.76 increased 15%, or \$.37. A summary table of changes in diluted earnings per share is presented below.
- We withdrew our tender offer to purchase all of the outstanding shares of Airgas, Inc. and terminated the associated credit facility.
- We purchased 3.8 million of our outstanding shares at a cost of \$350.0 under the \$1,000 share repurchase program announced in the fourth quarter of 2007. At 31 March 2011, \$299.2 in share repurchase authorization remains.
- We increased our quarterly dividend from \$.49 to \$.58 per share. This represents the 29th consecutive year that we have increased our dividend payment.

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Changes in Diluted Earnings per Share Attributable to Air Products

	Six Months Ended 31 March		Increase (Decrease)
	2011	2010	
Diluted Earnings per Share	\$ 2.62	\$ 2.32	\$.30
Net loss on Airgas Transaction	.14	.07	.07
Diluted Earnings per Share – Non-GAAP Basis	\$ 2.76	\$ 2.39	\$.37
Operating Income (after-tax)			
Underlying business			
Volume			\$.52
Price/raw materials			(.02)
Costs			(.06)
Currency			(.03)
Operating Income			.41
Other (after-tax)			
Income tax rate			(.01)
Noncontrolling interest			(.01)
Average shares outstanding			(.02)
Other			(.04)
Total Change in Diluted Earnings per Share – Non-GAAP Basis			\$.37

RESULTS OF OPERATIONS
Discussion of Consolidated Results

	Six Months Ended 31 March			
	2011	2010	\$ Change	Change
Sales	\$ 4,893.0	\$ 4,422.5	\$ 470.5	11%
Operating income – GAAP Basis	780.1	685.6	94.5	14%
Operating income – Non-GAAP Basis	828.6	709.0	119.6	17%
Operating margin – GAAP Basis	15.9%	15.5%	—	40bp
Operating margin – Non-GAAP Basis	16.9%	16.0%	—	90bp
Equity affiliates' income	59.5	59.1	.4	1%

Sales

	% Change from Prior Year
Underlying business	
Volume	11%
Price	1%
Currency	—
Energy and raw material cost pass-through	(1)%
Total Consolidated Change	11%

Underlying business increased sales 12%, primarily due to higher volumes in our Electronics and Performance Materials, Tonnage Gases, and Merchant Gases segments and higher pricing of 1%. Energy and raw material cost pass-through to customers decreased sales by 1%.

Operating Income and Margin

Underlying business increased \$128 primarily from higher volumes in all segments, partially offset by lower net recovery of raw material costs in pricing and higher operating costs. Unfavorable currency translation and foreign exchange impacts decreased operating income by \$8. On a GAAP basis, operating income includes \$48.5 in net loss related to the Airgas transaction.

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Equity Affiliates' Income

Income from equity affiliates of \$59.5 increased \$.4. Higher equity affiliate income in the Merchant Gases segment was principally offset by a charge for the anticipated sale of a plant in one of our affiliates in Asia.

Selling and Administrative Expense (S&A)

S&A expense of \$504.0 increased \$19.5 primarily due to higher bad debt expense, pension expense and inflation. S&A as a percent of sales decreased to 10.3% from 11.0%.

Research and Development (R&D)

R&D expense of \$57.1 increased 7%, or \$3.6, primarily due to increased spending in the Energy business. R&D, as a percent of sales was 1.2% for both 2011 and 2010.

Net Loss on Airgas Transaction

As discussed in Note 3 to the Consolidated Financial Statements, we withdrew our tender offer to acquire all of the outstanding stock of Airgas on 15 February 2011. In connection with the tender offer, we had secured committed financing in the form of a \$6.7 billion term loan credit facility. This credit facility was also terminated.

Prior to the tender offer, we purchased approximately 1.5 million shares of Airgas stock for a total cost of \$69.6. This amount was recorded as an available-for-sale investment within other noncurrent assets on the consolidated balance sheet. On 16 February 2011, we sold the 1.5 million shares of Airgas stock for total proceeds of \$94.7 and recognized a gain of \$25.1 (\$15.9 after-tax, or \$.07 per share).

For the six months ended 31 March 2011, \$48.5 (\$31.6 after-tax, or \$.14 per share) in net loss was recognized related to this transaction. These amounts are reflected separately on the consolidated income statement within "Net loss on Airgas transaction" and include amortization of the fees related to the term loan credit facility, the gain on the sale of Airgas stock and other acquisition-related costs. For the year ended 30 September 2010, \$96.0 (\$60.1 after-tax, or \$.28 per share) in expense was recognized in relation to this transaction. Refer to Note 3, Airgas Transaction, to the consolidated financial statements.

Other Income, Net

Items recorded to other income arise from transactions and events not directly related to our principal income earning activities.

Other income of \$19.7 decreased \$2.1, primarily due to unfavorable foreign exchange and insurance proceeds that were received in the prior year in final settlement of a claim related to a fire at a production facility in 2008, partially offset by a gain on the sale of assets. Otherwise, no individual items were significant in comparison to the prior year.

Interest Expense

	Six Months Ended 31 March	
	2011	2010
Interest incurred	\$ 69.9	\$ 69.6
Less: capitalized interest	9.5	8.5
Interest expense	\$ 60.4	\$ 61.1

Interest incurred increased \$.3. The increase was driven by higher average interest rates on variable rate debt, partially offset by a lower average debt balance and the impact of a stronger dollar on the translation of foreign currency interest. The change in capitalized interest is driven by an increase in project spending which qualified for capitalization.

Effective Tax Rate

The effective tax rate equals the income tax provision divided by income before taxes. On a GAAP basis, the effective tax rate was 24.6% in both 2011 and 2010. On a non-GAAP basis, the effective tax rate was 25.2% and 25.1% in 2011 and 2010, respectively.

[Table of Contents](#)**Net Income**

Net income was \$572.9 compared to \$503.8 and diluted earnings per share was \$2.62 compared to \$2.32. On a non-GAAP basis, net income was \$604.5 compared to \$518.4 and diluted earnings per share was \$2.76 compared to \$2.39. A summary table of changes in earnings per share is presented on page 27.

SEGMENT ANALYSIS**Merchant Gases**

	Six Months Ended 31 March		\$ Change	Change
	2011	2010		
Sales	\$ 2,000.5	\$ 1,855.3	\$ 145.2	8%
Operating income	385.5	367.7	17.8	5%
Operating margin	19.3%	19.8%	—	(50bp)
Equity affiliates' income	57.9	48.1	9.8	20%

Merchant Gases Sales

	% Change from Prior Year
Underlying business	
Volume	8%
Price	1%
Currency	(1)%
Total Merchant Gases Sales Change	8%

Underlying sales increased 9% due to higher volumes of 8% and higher pricing of 1%. Volumes increased driven by strong growth in Asia and improvement in our North American and European liquid bulk business. Currency had an unfavorable impact of 1% on sales.

In North America, sales increased 6%, with volumes up 3% and price up 3%. The increase in volumes was primarily driven by growth in liquid oxygen and liquid nitrogen. Pricing increased across all product lines. In Europe, sales were flat with 3% higher volume offset by 1% lower price and unfavorable currency impacts of 3%. The volume increase was primarily due to stronger liquid/bulk growth and modest packaged gas improvement, partially offset by lower healthcare price and volume. In Asia, sales increased 33%, with volumes up 22%, pricing up 6% and a favorable currency impact of 5%. Volumes were up on strength across all products.

Merchant Gases Operating Income and Margin

Operating income increased primarily due to higher volumes of \$44 and higher net recovery of raw material costs in pricing of \$2, partially offset by higher operating costs of \$25 and unfavorable currency of \$3. Operating margin decreased 50 bp from prior year, primarily due to higher operating, maintenance, and distribution costs.

Merchant Gases Equity Affiliates' Income

Merchant Gases equity affiliates' income increased as a result of higher volumes and an unfavorable adjustment in the prior year.

Tonnage Gases

	Six Months Ended 31 March		\$ Change	Change
	2011	2010		
Sales	\$ 1,565.2	\$ 1,454.6	\$ 110.6	8%
Operating income	236.5	207.4	29.1	14%
Operating margin	15.1%	14.3%	—	80bp

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Tonnage Gases Sales

	% Change from Prior Year
Underlying business	
Volume	11%
Currency	— %
Energy and raw material cost pass-through	(3)%
Total Tonnage Gases Sales Change	8%

Sales of \$1,565.2 increased 8%, or \$110.6. Volumes increased 11% primarily driven by refinery hydrogen customers. Lower natural gas prices resulted in lower energy and raw material contractual cost pass-through to customers, decreasing sales by 3%.

Tonnage Gases Operating Income and Margin

Operating income of \$236.5 increased 14%, or \$29.1. The increase was due to new plants brought onstream over the last twelve months of \$18 and improved plant efficiencies of \$11. Operating margin increased 80 bp from prior year, primarily due to improved plant efficiencies.

Electronics and Performance Materials

	Six Months Ended 31 March		\$ Change	Change
	2011	2010		
Sales	\$ 1,101.9	\$ 884.6	\$ 217.3	25%
Operating income	160.6	105.4	55.2	52%
Operating margin	14.6%	11.9%	—	270bp

Electronics and Performance Materials Sales

	% Change from Prior Year
Underlying business	
Volume	22%
Price	2%
Currency	1%
Total Electronics and Performance Materials Sales Change	25%

Sales increased due to higher volumes, higher pricing, and favorable currency. Electronics sales increased 31%, reflecting increased volumes in tonnage, specialty materials, and the equipment business. Performance Materials sales increased 17% due to volume growth across all end markets globally and higher pricing related to increased raw material costs.

Electronics and Performance Materials Operating Income

Operating income increased primarily from higher volumes of \$60 and lower operating costs of \$7, partially offset by lower net recovery of raw material costs in pricing of \$10 and unfavorable currency of \$2. Operating margin improved primarily due to higher volumes.

Equipment and Energy

	Six Months Ended 31 March		\$ Change	% Change
	2011	2010		
Sales	\$ 225.4	\$ 228.0	\$ (2.6)	(1)%
Operating income	42.7	26.0	16.7	64%

Equipment and Energy Sales and Operating Income

Sales decreased reflecting lower ASU sales. Operating income increased due to higher LNG project activity.

The sales backlog for the Equipment business at 31 March 2011 was \$184, compared to \$274 at 30 September 2010.

Other

Other operating income (loss) includes other expense and income that cannot be directly associated with the business segments, including foreign exchange gains and losses and interest income. Also included are LIFO inventory adjustments, as the business segments use FIFO and the LIFO pool adjustments are not allocated to the business segments. Corporate general and administrative costs and research and development costs are fully allocated to the business segments.

Other operating income of \$3.3 increased \$.8 primarily due to gains on asset sales partially offset by unfavorable foreign exchange.

RECONCILIATION OF NON-GAAP FINANCIAL MEASURES

The presentation of non-GAAP measures is intended to enhance the usefulness of financial information by providing measures which our management uses internally to evaluate our baseline performance on a comparable basis. Presented below are reconciliations of the reported GAAP results to the non-GAAP measures.

CONSOLIDATED RESULTS

	Q2	Q2	YTD	YTD
	Operating Income	Operating Margin (c)	Operating Income	Operating Margin (c)
2011 GAAP	\$ 419.5	16.8%	\$ 780.1	15.9%
2010 GAAP	340.6	15.1%	685.6	15.5%
Change GAAP	\$ 78.9	170bp	\$ 94.5	40bp
% Change GAAP	23%		14%	
2011 GAAP	\$ 419.5	16.8%	\$ 780.1	15.9%
Net loss on Airgas transaction	5.0	0.2%	48.5	1.0%
2011 Non-GAAP Measure	\$ 424.5	17.0%	\$ 828.6	16.9%
2010 GAAP	\$ 340.6	15.1%	\$ 685.6	15.5%
Net loss on Airgas transaction	23.4	1.1%	23.4	0.5%
2010 Non-GAAP Measure	\$ 364.0	16.2%	\$ 709.0	16.0%
Change Non-GAAP Measure	\$ 60.5	80bp	\$ 119.6	90bp
% Change Non-GAAP Measure	17%		17%	

	Q2	Q2	YTD	YTD
	Net Income	Diluted EPS	Net Income	Diluted EPS
2011 GAAP	\$ 304.3	\$ 1.39	\$ 572.9	\$ 2.62
2010 GAAP	252.0	1.16	503.8	2.32
Change GAAP	\$ 52.3	\$.23	\$ 69.1	\$.30
% Change GAAP	21%	20%	14%	13%
2011 GAAP	\$ 304.3	\$ 1.39	\$ 572.9	\$ 2.62
Net loss on Airgas transaction (tax impact of \$.6 and \$16.9) (a)	4.4	.02	31.6	.14
2011 Non-GAAP Measure	\$ 308.7	\$ 1.41	\$ 604.5	\$ 2.76
2010 GAAP	\$ 252.0	\$ 1.16	\$ 503.8	\$ 2.32
Net loss on Airgas transaction (tax impact of \$8.8) (b)	14.6	.07	14.6	.07
2010 Non-GAAP Measure	\$ 266.6	\$ 1.23	\$ 518.4	\$ 2.39
Change Non-GAAP Measure	\$ 42.1	\$.18	\$ 86.1	\$.37
% Change Non-GAAP Measure	16%	15%	17%	15%

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	Effective Tax Rate			
	2011	2010	2011	2010
	Q2	Q2	YTD	YTD
Income Tax Provision — GAAP	\$ 110.3	\$ 84.9	\$ 191.8	\$ 168.4
Income before taxes — GAAP	\$ 421.8	\$ 343.3	\$ 779.2	\$ 683.6
Effective Tax Rate — GAAP	26.1%	24.7%	24.6%	24.6%
Income Tax Provision — GAAP	\$ 110.3	\$ 84.9	\$ 191.8	\$ 168.4
Net loss on Airgas transaction tax impact	.6	8.8	16.9	8.8
Income Tax Provision — Non-GAAP Measure	\$ 110.9	\$ 93.7	\$ 208.7	\$ 177.2
Income before taxes — GAAP	\$ 421.8	\$ 343.3	\$ 779.2	\$ 683.6
Net loss on Airgas transaction	5.0	23.4	48.5	23.4
Income before taxes — Non-GAAP Measure	\$ 426.8	\$ 366.7	\$ 827.7	\$ 707.0
Effective Tax Rate — Non-GAAP Measure	26.0%	25.6%	25.2%	25.1%

- a) Based on statutory tax rate of 36.57%, including impact of tax rate adjustment for 2010 and first quarter 2011 costs.
- b) Based on statutory tax rate of 37.44%.
- c) Operating Margin is calculated by dividing operating income by sales.

PENSION BENEFITS

Refer to Note 9, Retirement Benefits, to the consolidated financial statements for details on pension cost and cash contributions. For additional information on our pension benefits and associated accounting policies, refer to the Pension Benefits section of Management’s Discussion and Analysis and Note 16, Retirement Benefits, to the consolidated financial statements in our 2010 Form 10-K.

LIQUIDITY AND CAPITAL RESOURCES

We have maintained a strong financial position through the first six months of 2011. We continue to have consistent access to commercial paper markets and cash flow from operations and financing activities are expected to meet liquidity needs for the foreseeable future.

The narrative below refers to the consolidated statements of cash flows included on page 6.

Operating Activities

Net cash provided by operating activities increased \$84.0, or 15%. The increase resulted from higher net income of \$69.1 combined with the favorable impact of changes in working capital of \$209.9, partially offset by higher payments of Airgas acquisition-related costs of \$151.4 and unfavorable adjustments to income to reconcile to cash provided by operating activities of \$43.6.

Changes in working capital decreased cash used (positive cash flow variance) by \$209.9 and included:

- A \$98.5 positive cash flow variance from payables and accrued liabilities resulting primarily from higher pension contributions and other accrued payments in the prior year.
- A \$47.9 positive cash flow variance in trade receivables. The current year reflected a negative cash flow of \$82.0 while the prior year reflected a negative cash flow of \$129.9.
- A \$63.5 net positive cash flow variance in several other working capital accounts, primarily from changes in accrued income taxes.

Payments of Airgas acquisition related costs in the current year were \$153.8 compared to \$2.4 in the prior year. The current year payments included financing fees and other costs related to the acquisition effort.

Investing Activities

Cash used for investing activities decreased \$98.2 and included:

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- A \$164.3 positive cash flow variance from the current year proceeds of \$94.7 received from the sale of Airgas shares and the prior year purchase of approximately 1.5 million shares of Airgas stock for \$69.6.
- A negative cash flow variance from higher capital expenditures for plant and equipment of \$95.8.
- A \$29.3 positive cash flow variance from higher proceeds from the sale of assets and investments. Of this amount \$18.8 related to a sale recognized in 2010.

Capital expenditures are detailed in the table below:

	Six Months Ended 31 March	
	2011	2010
Additions to plant and equipment	\$ 612.7	\$ 516.9
Acquisitions, less cash acquired	—	34.9
Short-term borrowings associated with SAGA acquisition ^(A)	—	60.6
Investment in and advances to unconsolidated affiliates	24.2	4.5
Capital expenditures on a GAAP basis	\$ 636.9	\$ 616.9
Capital lease expenditures ^(B)	116.0	82.3
Capital expenditures on a Non-GAAP basis	\$ 752.9	\$ 699.2

^(A) Noncash transaction.

^(B) The Company utilizes a non-GAAP measure in the computation of capital expenditures and includes spending associated with facilities accounted for as capital leases. Certain contracts associated with facilities that are built to provide product to a specific customer are required to be accounted for as leases, and such spending is reflected as a use of cash within cash provided by operating activities. The presentation of this non-GAAP measure is intended to enhance the usefulness of information by providing a measure which the Company's management uses internally to evaluate and manage the Company's expenditures.

Financing Activities

Cash used for financing activities increased \$36.8, primarily due to the purchase of treasury stock for \$350.0, partially offset by a net increase in borrowings of \$283.4, and higher proceeds of \$37.2 from stock option exercises.

- Company borrowings (short- and long-term proceeds, net of repayments) were a net increase of \$212.2 as compared to net repayments of \$71.2 during 2010. Borrowings in 2011 included \$367.0 of commercial paper. Payments in 2011 included a \$156.0 Medium-term note and the purchase of the remaining shares of SAGA (€44.8 million, or approximately \$62), as more fully described in Note 4, Business Combinations, to the consolidated financial statements.

Total debt at 31 March 2010 and 30 September 2010, expressed as a percentage of the sum of total debt and total equity, was 42.3% and 42.0%, respectively. Total debt increased from \$4,128.3 at 30 September 2010 to \$4,395.9 at 31 March 2011.

Effective 31 March 2011, we increased our total multicurrency revolving facility, maturing in July 2013, by \$170.0, to a total of \$2,170.0. No borrowings were outstanding under these commitments. Additional commitments totaling \$499.6 are maintained by our foreign subsidiaries, of which \$401.0 was borrowed and outstanding at 31 March 2011.

In connection with the Airgas tender offer, we had secured committed financing in the form of a \$6.7 billion term loan credit facility. Refer to Note 15, Debt, in our 2010 Form 10-K for additional information on this credit facility which would have expired 4 February 2011. On 3 February 2011, we entered into an amended and restated credit agreement providing for an amended \$6.7 billion term loan credit facility with a maturity date of 4 June 2011. The amended credit facility agreement contained the same covenants as the original agreement: one financial covenant, a maximum leverage ratio, and other affirmative and negative covenants, including restrictions on liens and certain subsidiary indebtedness. No additional underwriting fees were incurred in relation to the amended agreement. On 16 February 2011, in connection with the termination of the offer to purchase all outstanding shares of common stock of Airgas, the credit facility was terminated. No early termination penalties were incurred and all fees previously accrued and due under the credit facility were paid as of date of termination.

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We are in compliance with all of the financial and other covenants under our debt agreements.

On 20 September 2007, the Board of Directors authorized the repurchase of up to \$1,000 of our outstanding common stock. During the first six months of fiscal year 2011, we purchased 3.8 million of our outstanding shares at a cost of \$350.0. At 31 March 2011, \$299.2 in share repurchase authorization remains.

CONTRACTUAL OBLIGATIONS

We are obligated to make future payments under various contracts such as debt agreements, lease agreements, unconditional purchase obligations, and other long-term obligations. There have been no material changes to contractual obligations as reflected in the Management's Discussion and Analysis in our 2010 Form 10-K.

COMMITMENTS AND CONTINGENCIES

Refer to Note 17, Commitments and Contingencies, to the consolidated financial statements in our 2010 Form 10-K and for current updates on Litigation and Environmental matters refer to Note 10, Commitments and Contingencies, in this quarterly filing.

OFF-BALANCE SHEET ARRANGEMENTS

There have been no material changes to off-balance sheet arrangements as reflected in the Management's Discussion and Analysis in our 2010 Form 10-K. We are not a primary beneficiary in any material variable interest entity. Our off-balance sheet arrangements are not reasonably likely to have a material impact on financial condition, changes in financial condition, and results of operations or liquidity.

RELATED PARTY TRANSACTIONS

Our principal related parties are equity affiliates operating in the industrial gas business. We did not engage in any material transactions involving related parties that included terms or other aspects that differ from those which would be negotiated at arm's length with clearly independent parties.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

Management's Discussion and Analysis of our financial condition and results of operations is based on the consolidated financial statements and accompanying notes that have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

Our significant accounting policies are described in Note 1, Major Accounting Policies, to the consolidated financial statements and the critical accounting policies and estimates are described in the Management's Discussion and Analysis included in our 2010 Form 10-K. Information concerning our implementation and impact of new accounting standards issued by the FASB is included in Note 2, New Accounting Guidance, to the consolidated financial statements. There have been no changes in accounting policy in the current period that had a material impact on our financial condition, change in financial condition, liquidity, or results of operations.

NEW ACCOUNTING GUIDANCE

See Note 2, New Accounting Guidance, to the consolidated financial statements for information concerning our implementation and impact of new accounting guidance.

FORWARD-LOOKING STATEMENTS

This report contains "forward-looking statements," within the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on management's reasonable expectations and assumptions as of the date this report is filed. Actual performance and financial results may differ materially from projections and estimates expressed in the forward-looking statements because of many factors, including, without limitation, stalling of the global economic recovery; renewed

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deterioration in economic and business conditions; weakening demand for the Company's products; future financial and operating performance of major customers and industries served by the Company; unanticipated contract terminations or customer cancellations or postponement of projects and sales; asset impairments due to economic conditions or specific product or customer events; the impact of competitive products and pricing; interruption in ordinary sources of supply of raw materials; the ability to recover unanticipated increased energy and raw material costs from customers; costs and outcomes of litigation or regulatory activities; consequences of acts of war or terrorism impacting the United States' and other markets; the effects of a pandemic or epidemic or a natural disaster; charges related to current portfolio management and cost reduction actions; the success of implementing cost reduction programs and achieving anticipated acquisition synergies; the timing, impact, and other uncertainties of future acquisitions or divestitures; significant fluctuations in interest rates and foreign currencies from that currently anticipated; the continued availability of capital funding sources in all of the Company's foreign operations; the impact of new or changed environmental, healthcare, tax or other legislation and regulations in jurisdictions in which the Company and its affiliates operate; the impact of new or changed financial accounting standards; and the timing and rate at which tax credits can be utilized and other risk factors described in the Company's Form 10-K for its fiscal year ended 30 September 2010. The Company disclaims any obligation or undertaking to disseminate any updates or revisions to any forward-looking statements contained in this document to reflect any change in the Company's assumptions, beliefs or expectations or any change in events, conditions or circumstances upon which any such forward-looking statements are based.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Information on our utilization of financial instruments and an analysis of the sensitivity of these instruments to selected changes in market rates and prices is included in our 2010 Form 10-K.

There were no material changes to market risk sensitivities for interest rate risk on fixed debt, foreign currency exchange rate risk, or commodity price risk since 30 September 2010.

The net financial instrument position decreased from a liability of \$4,128 at 30 September 2010 to a liability of \$3,938 at 31 March 2011, principally due to the repayment of long-term debt and the impact of higher interest rates on the market value of long-term debt and interest rate and currency swaps, partially offset by the impact of a weaker U.S. Dollar on the translation of foreign currency debt and the market value of foreign exchange forward contracts.

Item 4. Controls and Procedures

We maintain a comprehensive set of disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act). As of 31 March 2011 (the Evaluation Date), an evaluation of the effectiveness of our disclosure controls and procedures was carried out under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer. Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that, as of the end of the period covered by this report these disclosure controls and procedures were effective.

During the quarter that ended on the Evaluation Date, there was no change in internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION**Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.**

Purchases of Equity Securities by the Issuer

Period	(a) Total Number of Shares (or Units) Purchased	(b) Average Price Paid per Share (or Unit)	(c) Total Number of Shares (or Units) Purchased as Part of Publicly Announced Plans or Programs	(d) Maximum Number (or Approximate Dollar Value) of Shares (or Units) that May Yet Be Purchased Under the Plans or Programs
1/1 - 1/31/11	0	N/A	0	\$ 649,183,626
2/1 - 2/28/11	1,945,102	\$ 91.62	1,945,102	\$ 470,971,377
3/1 - 3/31/11	1,890,166	\$ 90.88	1,890,166	\$ 299,184,021
TOTAL	3,835,268	\$ 91.26	3,835,268	\$ 299,184,021

On 20 September 2007, the Company's Board of Directors authorized the repurchase of \$1 billion of common stock. The program does not have a stated expiration date. This program will be completed at the Company's discretion while maintaining sufficient funds for investing in its businesses and growth opportunities. There were no other publicly announced plans outstanding as of 31 March 2011.

Item 6. Exhibits.

Exhibits required by Item 601 of Regulation S-K

- 10.1 Amendment No. 1 to the Air Products and Chemicals, Inc. Retirement Savings Plan as amended and restated effective October 1, 2009.
- 12. Computation of Ratios of Earnings to Fixed Charges.
- 31.1. Certification by the Principal Executive Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 31.2. Certification by the Principal Financial Officer pursuant to Rule 13a-14(a) or Rule 15d-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
- 32. Certification by the Principal Executive Officer and Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. †
- 101.INS XBRL Instance Document††
- 101.SCH XBRL Taxonomy Extension Schema††
- 101.CAL XBRL Taxonomy Extension Calculation Linkbase††
- 101.LAB XBRL Taxonomy Extension Label Linkbase††
- 101.PRE XBRL Taxonomy Extension Presentation Linkbase††
- 101.DEF XBRL Taxonomy Extension Definition Linkbase††

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† The certification attached as Exhibit 32 that accompanies this Quarterly Report on Form 10-Q, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of Air Products and Chemicals, Inc. under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this Form 10-Q, irrespective of any general incorporation language contained in such filing.

†† In accordance with Rule 402 of Regulation S-T, the information in these exhibits shall not be deemed to be “filed” for purposes of Section 18 of the Exchange Act, or otherwise subject to the liability of that section, and shall not be incorporated by reference into any registration statement or other document filed under the Securities Act, or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Air Products and Chemicals, Inc.

(Registrant)

Date: 26 April 2011

By: _____

/s/ Paul E. Huck

Paul E. Huck

Senior Vice President and Chief Financial Officer

EXHIBIT INDEX

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**AMENDMENT NO. 1 TO THE
AIR PRODUCTS AND CHEMICALS, INC.
RETIREMENT SAVINGS PLAN**

WHEREAS, Air Products and Chemicals, Inc. (the "Company") is the Plan Sponsor of the Air Products and Chemicals, Inc. Retirement Savings Plan (the "Plan");

WHEREAS, pursuant to Plan Section 7.01 the Plan may be amended at anytime; and

WHEREAS, the Company desires to amend the Plan effective February 1, 2011 to permit employees who are hired or rehired as non-union hourly Employees on or after February 1, 2011 and certain other employees who become non-union hourly Employees on or after February 1, 2011 to receive Company Core Contributions and enhanced Company Matching Contributions under the Plan.

NOW, THEREFORE, effective February 1, 2011, the Plan is hereby amended as follows:

1. The last paragraphs of Section 2.03 Annual Salary shall be amended to read as follows:

"In the case of a Participant who is a full-time hourly or a weekly salaried production and maintenance employee, Annual Salary shall be determined by multiplying his base hourly pay rate by 2,080 hours. In the case of a Participant who is a part-time hourly employee or a part-time non exempt salaried employee, Annual Salary shall be determined by multiplying his base hourly pay by his scheduled annual hours. Notwithstanding the above, Annual Salary means 125% of the amount determined in accordance with the preceding two sentences for any Participant who is employed as an over-the-road truck driver by an Employer, is paid on a mileage and hourly basis or who receives trip pay, and whose employment is based at a liquid bulk distribution terminal designated from time to time by the Vice President - Human Resources as a "Designated Terminal" and identified as such on Exhibit I.

For Employees who are receiving compensation directly from the Employer during periods of short-term disability, Annual Salary for purposes of Core Contributions will be computed in the same manner as if in active employment but for purposes of Before-Tax Contributions, After-Tax Contributions, and Company Matching Contributions for non-union hourly Employees only, shall be considered zero.

Notwithstanding the above, "Annual Salary" shall not exceed the limitation provided under Code Section 401(a)(17) as adjusted pursuant to Code Section 401(a)(17)(B) for any Plan Year."

2. Section 2.15 shall be amended to read as follows:

"2.15 Core Contribution Participant shall mean an Electing Employee, a salaried Employee whose Employment Commencement Date or Reemployment Commencement

date occurs after October 31, 2004 or who otherwise becomes a salaried Employee after such date, a non-union hourly Employee whose Employment Commencement Date or Reemployment Commencement date occurs after February 1, 2011, or an employee who otherwise becomes a non-union hourly Employee after February 1, 2011 provided such employee is not accruing benefits in the Hourly Pension Plan.”

3. Section 2.28(b) shall be amended to read as follows

“(b) each hour for which an employee (whether or not as an Employee) is directly or indirectly paid, or entitled to payment, by the Company or an Affiliated Company on account of a period of time during which no duties are performed (irrespective of whether the employment relationship has terminated) due to vacation, holiday, illness, incapacity (including short-term disability), layoff, jury duty, military duty, or leave of absence”

4. Sections 2.58(b) is amended, a new section 2.58 (c) is added and prior section 2.58(c) is renumbered as 2.58(d) and amended to read as follows:

“(b) If an Employee has a Severance from Service Date and after January 1, 2005 is rehired by the Employer as a salaried Employee or after February 1, 2011 is rehired by the Employer as a non-union hourly Employee, Years of Service prior to the Employee’s Severance from Service Date shall not be taken into account as Years of Service. The Employee’s date of reemployment shall be the Employee’s Employment Commencement Date for purposes of (a) above.

(c) Notwithstanding the foregoing, an hourly employee who is receiving credited service in the Hourly Pension Plan and becomes a salaried Employee after January 1, 2005, or a salaried employee who is receiving credited service in the Salaried Pension Plan and becomes a non-union hourly Employee after February 1, 2011 will be credited with Years of Service beginning with the date he or she first earned Credited Service under the Salaried Pension Plan or the Hourly Pension Plan, as applicable, but excluding any period when he or she was not employed by the Company or an Affiliated Company, and any period of active employment with respect to which service is not taken into account in calculating his or her Accrued Benefit under such Plan.

(d) Notwithstanding the foregoing, for periods of service prior to January 1, 2005, an Employee who was a Core Contribution Participant as of January 1, 2005, will be credited with Years of Service beginning with the date he or she first earned Credited Service under the Salaried Pension Plan or the Hourly Pension Plan, but excluding any period when he or she was not employed by the Company or an Affiliated Company, and any period with respect to which service is not taken into account in calculating his or her Accrued Benefit under such Plan as of January 1, 2005.”

5. Section 2.59(a) is hereby amended to read as follows:

“(a) An Employee shall be credited with full and partial Years of Vesting Service for the period from the Employee’s Employment Commencement Date to the Employee’s Severance from Service Date and, if applicable, from the Employee’s Reemployment Commencement Date to the Employee’s subsequent Severance from Service Date; provided that, an Employee who is absent from work due to maternity or paternity leave as defined in subsection 2.51 immediately prior to their Severance from Service Date

AIR PRODUCTS AND CHEMICALS, INC., AND SUBSIDIARIES
COMPUTATION OF RATIOS OF EARNINGS TO FIXED CHARGES
(Unaudited)

(Millions of dollars)	Six Months Ended 31 March 2011	Year Ended 30 September				
	2011	2010	2009	2008	2007	2006
Earnings:						
Income from continuing operations ⁽¹⁾	\$ 587.4	\$ 1,054.5	\$ 651.3	\$ 1,113.5	\$ 1,040.4	\$ 753.0
Add (deduct):						
Provision for income taxes	198.6	354.9	196.2	381.7	289.0	271.9
Fixed charges, excluding capitalized interest	73.3	147.9	149.2	188.8	190.9	146.7
Capitalized interest amortized during the period	4.6	8.7	7.7	6.6	6.4	6.5
Undistributed earnings of less-than-fifty-percent-owned affiliates	(11.7)	(29.2)	(44.2)	(72.7)	(61.2)	(29.2)
Earnings, as adjusted	<u>\$ 852.2</u>	<u>\$ 1,536.8</u>	<u>\$ 960.2</u>	<u>\$ 1,617.9</u>	<u>\$ 1,465.5</u>	<u>\$ 1,148.9</u>
Fixed Charges:						
Interest on indebtedness, including capital lease obligations	\$ 59.0	\$ 121.8	\$ 125.1	\$ 164.4	\$ 163.7	\$ 119.8
Capitalized interest	9.6	14.5	22.2	27.3	14.6	18.8
Amortization of debt discount premium and expense	3.5	5.6	4.7	4.0	4.1	4.8
Portion of rents under operating leases representative of the interest factor	<u>10.8</u>	<u>20.5</u>	<u>19.4</u>	<u>20.4</u>	<u>23.1</u>	<u>22.1</u>
Fixed charges	<u>\$ 82.9</u>	<u>\$ 162.4</u>	<u>\$ 171.4</u>	<u>\$ 216.1</u>	<u>\$ 205.5</u>	<u>\$ 165.5</u>
Ratio of Earnings to Fixed Charges ⁽²⁾:	<u>10.3</u>	<u>9.5</u>	<u>5.6</u>	<u>7.5</u>	<u>7.1</u>	<u>6.9</u>

⁽¹⁾ During the twelve months ended 30 September 2009, income from continuing operations included a charge of \$298.2 (\$200.3 after-tax) for the global cost reduction plan.

⁽²⁾ The ratio of earnings to fixed charges is determined by dividing earnings, which includes income from continuing operations before taxes, undistributed earnings of less-than-fifty-percent-owned affiliates, and fixed charges, by fixed charges. Fixed charges consist of interest on all indebtedness plus that portion of operating lease rentals representative of the interest factor (deemed to be 21% of operating lease rentals).

PRINCIPAL EXECUTIVE OFFICER'S CERTIFICATION

I, John E. McGlade, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Air Products and Chemicals, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: 26 April 2011

/s/ John E. McGlade

John E. McGlade
President and Chief Executive Officer

PRINCIPAL FINANCIAL OFFICER'S CERTIFICATION

I, Paul E. Huck, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Air Products and Chemicals, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: 26 April 2011

/s/ Paul E. Huck

Paul E. Huck
Senior Vice President and Chief Financial Officer

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE
SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report of Air Products and Chemicals, Inc. (the "Company") on Form 10-Q for the period ending 31 March 2011, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), we, John E. McGlade, Chief Executive Officer of the Company, and Paul E. Huck, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: 26 April 2011

/s/ John E. McGlade

John E. McGlade
Chief Executive Officer

/s/ Paul E. Huck

Paul E. Huck
Chief Financial Officer